



UTIFORM
Technologies S.L.

INSTRUCTIONS



Delta-Mini

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Introduction

Please read this User Manual carefully before using your new Mini pump. It is essential that the operating personnel become thoroughly familiar with all the functions and workings of this machine in order to avoid errors that could lead to the machine being damaged.

We recommend thorough care and careful handling of the machine so that your Mini will have a long working life and not experience any breakdowns.

Please send the guarantee request form that you were given when you purchased your new Mini to the factory without delay. You will then receive your certificate of guarantee and will be added to our client base. This will enable you to receive information about new products and all the possible uses of the Mini.

If any problems were to occur, or if you need to order spare parts or request the help of our Customer Service, please either contact your nearest UTIFORM dealer, or contact us directly. If you wish, we can provide you with the name of your nearest dealer.

The User Manual has an appendix with a detailed list of all the spare parts for the Mini. In order to avoid mistakes in deliveries please always indicate the exact name and part number from this list when making your orders.

To avoid possible damage to the machine caused by using spare parts that are either defective or of poor quality, you should only use original UTIFORM wear and spare parts that have been tested appropriately.

Please fill in the form below so that you know the basic characteristics of your machine and have these easily at hand for when you need to order spare parts. You will find the data to fill in here on the plaque with the machines characteristics.

MINI
Machine number	Type.....
Engine head	Number.....

We reserve the right to carry out any technical modifications to the machine that lead to its improvement although not specified in this manual.

User Manual Number

We wish you every success with your new Mini pump.

1	Technical description	4
2	Operating mode	4
3	Technical Information	5
3.1	Standard model	5
4	General safety guidelines	6
4.1	Safety	7
4.1.1	Designated use	7
4.1.2	Indication of danger	8
4.1.3	Security in the workplace	8
4.1.4	Safety rules for conveyers and spraying machines	9
4.1.5	Protective devices for personnel	9
4.1.6	Other suggestions	9
5	Start-up	10
5.1	Installation of the machine	10
5.2	Electricity supply point	10
5.3	Water supply point	10
5.4	Product hose placement and lubrication	10
5.5	Connection of air hose and spraying lance	10
5.6	Checking the rotation direction	10
5.7	Loading of air into the water regulator	11
5.8	Adjustment of water regulator	11
5.9	Pressure test of the perpetual screw pump (stator- sleeve)	11
5.10	Amount of water required	12
5.11	Machine start-up	12
5.12	Spraying	13
6	Speed Variator	13
6.1	Commissioning of the ATV 18 variator	13
7	Interruptions in Operation	20
7.1	Brief interruptions	20
7.2	Long interruptions in work and completion of work	20
7.3	Stoppage of the machine	21
8	Service and maintenance	22
9	Faults and corrective actions	23
10	Accessories	25
11	EC Declaration of Conformity	26

12	Appendix	28
12.1	Combined diagram	
12.2	Water system	
12.3	Air system	
12.4	Water pump	
12,5	Compressor delta 75	
12.6	Straight spraying gun and hoses	
12.7	Fittings	
12.8	Circuit board	
12.9	Mini 220 V electronic control panel distribution	
12.10	Mini 220 V electronic control panel connection.	
12.11	Mini 220 V electronic control panel variator outlet.	
12.12	Mini 220 V electronic control panel power diagram.	
12.13	Mini 220 V electronic control panel manipulation diagram.	
12.14	Mini 220-380 V electronic control panel distribution.	
12.15	Mini 220-380 V electronic control panel connection.	
12.16	Mini 220-380 V electronic control panel variator outlet.	
12.17	Mini 220-380 V electronic control panel product outlet.	
12.18	Mini 220-380 V electronic control panel power diagram.	
12.19	Mini 220-380 V electronic control panel manipulation diagram.	

1 Technical description

The Mini forms part of UTIFORM's long trajectory in manufacturing mixing pumps for bagged material. These machines mix the material to a homogenous consistency while also allowing the hydro-mechanical transport of the material by means of a perpetual screw pump. The Mini pump is loaded with bagged material. Compared to the traditional systems, this pump has a more functional structure, while requiring less maintenance, and is particularly suitable for mixing and conveying prepared mortars and dry premixed material such as adhesive for tiles, structured mortars and plaster as well as mortar for plastering. The Mini is ideal for those situations where an immediate availability of material is more important than the pumping capacity.

The machine itself comprises a dry material deposit which has the mixing tube connected to it at the bottom. At the top of the dry material deposit there is a motor reductor with its corresponding cover which activates the mixing beater by means of a stop shaft. The transversal bar of this then activates the perpetual screw of the mixing pump eccentric situated at the bottom of the mixing tube.

The mounted perpetual screw pump comprises an auto adjustable and fixed (stator) cover for the perpetual screw, and a perpetual screw for the eccentric (rotor) made of a material highly resistant to wear and tear. With this system the nuisance of having to adjust and retighten the stator screw is avoided.

To avoid damage during transport the machine's chassis is installed with both the electronic control panel and other control devices as well as the valves to regulate the exact amount of water in the mix.

2 Operating mode

The operating mode is similar to that of a mixing pump. The dry material deposit is loaded with the bagged material. The dry material falls into the dry area of the mixing tube and the motor reductor makes the mixing beater turn. The mixing beater has spiral screw threads which bring the dry material to the wet area of the mixing beater. A small joint provides a continuous jet of water which can be regulated with precision. The dry material and the water are mixed together in the shortest possible time and are transformed into a mass which can be pumped and is ready to use.

The single screw pump installed at the bottom of the deposit transports the mixture through the flexible pipe with a pumping capacity of up to 20 l/min, and brings it to the projecting lance. The pump can be activated or deactivated by means of a remote pneumatic control installed in the projecting spout. The pressure control valve in the water measuring device makes the machine stop if the water pressure is insufficient. To enable ease of transport the machine has two rubber-encased wheels that turn and two fixed ones, which makes it easier to manoeuvre on a building site.

3 Technical Data

Machine type	DELTA - MINI
Power of motor	2.2 Kw three-phase head motor
Electrical connection	230 V./50 Hz.
Network connection	CEE 2P+T 16 A./6h.
Control connection	48 V./50 Hz.
Current	16 A.
Type of spiral pump(sleeve)	(according to client preference)
Capacity	5 to 20 l/min. (*)
Pumping pressure	max.15 bares max. (*)
Pumping distance	up to 15 mts. (*)
Air compressor	170 l/min. approx.
Maximum air pressure	3.5 bars
Required water pressure	3 bars
Water coupling	Geka
Loading height	1050 mm.
Width	590 mm.
Length	1280 mm.
Total height	1410 mm.
Weight	Approx.155 Kg.

(*) Depending on the type of material, consistency and length of conveying hose.

3.1 Standard model

- 1 Membrane compressor, approx. 170 l/min.
- 1 230 V wet-rotor pump
- 1 Tool box
- 1 25mm straight projecting lance with spout.
- 1 Standard mixer
- 1 Stator (shirt) of choice
- 1 Rotor
- 1 Set cleaning tools (scraper and restorer)
- 1 Nozzle cleaning tool
- Wrenches (2 flat wrenches, 1 ring wrench, 1 pressure regulator /socket wrench, wrench for switch board)
- 2 Rubber cleaning balls Ø 35 mm.
- 10-metre material conveying pipe, 25 mm diameter with coupling.
- 10-metre air pipe 3/8" with coupling.
- 5-metre water pipe 3/4" with absorption valve.
- 25 metres of electric piping 5x2'5 mm² with base.
- 1 CEE Conformity Certificate.
- 1 6-month guarantee.
- 1 User manual and list of machine parts.

Optional:

- 1 pressure checker with gauge
- Additional piece for hopper to increase capacity.
- Full insufflation hood and bore.

4 General safety guidelines

In order to make working with the Mini easier and safer we have listed here the most important safety regulation which should be followed to avoid any danger when working with the machine.

INSTRUCTIONS FOR USE

1.- The MINI is designed to mix, convey and spray mineral building materials. The machine should only be used for the tasks for which it has been designed and the manufacturer's User Manual should be followed at all times.

2.- The machine should only be used by experienced personnel (machinery operators) who have been previously instructed in the operating procedures and maintenance. They should be familiar with its workings and have read the User Manual thoroughly.

3.- The machine should be positioned firmly on the site and secured so that there are no unwanted movements.

4.- Machines that run on electricity need to be connected to a suitable feeder socket (one that has a protector switch in the case of defective electrical currents).

5.- The machine must be installed at a safe distance from high scaffolding and should be protected against any possible damage from falling objects.

6.- The conveying pipes must be fixed in such a way that any strain is absorbed by adequate filtration points (hooks for pipes). This is especially important for pipes in a raised position.

7.- The conveying pipes must also be positioned in such a way that no damage will occur. If they cannot be laid completely straight and must be laid with a curve, then the radius of the curve should be no less than six times the exterior diameter of the pipe.

8.- Use only original UTIFORM high pressure pipes for materials. These come with built in couplings.

9.- Before switching on the machine you should check that nobody will be put in danger by doing so.

10.- When the machine is used you must check that the conveying pipe has sufficient prelubrication, that is, that the material used can be easily pumped and that there are no points left unsealed at the joints of the pipe.

11.- Both in the case of activation or failure of the security devices, the machine must be stopped until the problem has been eliminated.

12.- Before opening the conveying pipe system or any other component of the conveying system that is under pressure, you must first check that there is no pressure in the system.

13.- Blockages in the pipes must be eliminated following the instructions in this User Manual. The person in charge of carrying out this operation must position himself where he will not be reached by spraying material. Nobody else should be in the surrounding area.

14.- Security and accident prevention devices should not be removed or modified, and these must be handled correctly.

15.- Whenever the machine is being cleaned or repaired it should be turned off at the mains switch, otherwise the pneumatic remote control could start up the main motor by itself.

16.- Before starting the machine the operating safety of this must be checked. As soon as any faults are detected, or even indications of these, they should be eliminated immediately and the personnel supervisor notified. In the case of finding any faults that may endanger operating safety, use of the machine must be interrupted.

17.- If an accident happens as a result of not having respected the safety measures given here, or the safety measures in the work place as established by professional associations or by the insurance company with relation to civil responsibility or your country's legislation, or caused by negligence, then the legislator will hold the machine operator responsible or, in the case that this person could not be held responsible due to lack of training or basic knowledge, then the personnel supervisor will be held responsible.

For all these reasons, when you are working with the Mini, please do so with caution and bear in mind the safety measures that apply in each case (safety measures for the association of construction professionals relative to conveyors and spraying machines).

Below you will find some brief safety instructions to be followed for the correct use of this machine onsite.

4.1 Safety

4.1.1 Designated use

This machine has been designed and built for safe operation in accordance with current technological levels. However the machine may present a danger if it is used inadequately or for an unintended use or one not included in this user manual.



***Pay special attention to
this symbol in this chapter!***

4.1.2 Indication of danger

Actions that require particular care and precaution to be taken have been marked with this symbol:

This symbol is used to indicate all those jobs in which there may be danger to the health of personnel if the parts are handled incorrectly. Please pay close attention to the instructions and work with extra care. You should also follow the general indications on security and for the prevention of accidents with reference to the building sector.



This symbol is used to indicate all those procedures where it is obligatory to have first read the user manual. An example of one of these procedures is when it is necessary to uncouple parts of the machine. In this case there is the risk that the material is still under residual pressure and it could splash your eyes, so it would be necessary to wear protective glasses.



This symbol is used to indicate all those tasks in the user manual that could cause damage to objects. **WARNING!**

4.1.3 Security in the workplace



- The machine must be checked for visible damage before each use. Particular attention should be made to the electronic feeder cables, plugs, couplings and pipes.
- Work to the electric panel of the machine should only be carried out by specialised technicians or by an electrical expert, and always in accordance with the technical rules on electricity.



- The connection to the mains must always be protected by means of a protector switch in case there is a fault in the current (current transformer for building sites).
- Before correcting faults or carrying out maintenance or cleaning the machine, make sure it is turned off at the mains switch. Unplug the machine from the mains and for greater security hold the mains switch in place with a padlock.
- Special attention must be paid to the following points: **WARNING!**
 - The protective grid on the material deposit must be screwed tightly shut!
 - The mixing tube, the motor cover and feeder motor must be securely attached to the machine!
- All work carried out using the material pumping machine (for mortar or plaster) should be in accordance with the general regulations on safety and accident prevention in the building industry.

4.1.4 Safety rules for conveyers and spraying machines.

- This type of machine should only be used by qualified and responsible personnel (foreman) who have been specifically appointed by building company. They should be instructed in the handling and maintenance of the machine and be familiar with all its workings.
- The machine must be installed where it will be stable and secured against any accidental movement.
- Machines running on electricity must be connected to a special socket (normally a current transformer for building sites), in accordance with paragraph 55 of regulation VDE 0100/5.
- The machine must be installed where it is in no danger from falling objects or else shielded with a protective material. The pipes must be laid in such a way that they will not be damaged.
- If the safety devices on the machine either activate or fail to work correctly, the machine should be stopped until the problem has been corrected.
- Before opening the joints on the conveying pipes or other parts of the system that are under pressure, the foreman must make sure there is no pressure in the system.
- Blockages should be eliminated following the indications in the instructions for use. The person in charge of eliminating blockages must position himself in such a way that he will not be hit by the mortar coming out. There should be nobody else nearby when this task is being carried out.

4.1.5 Protective devices for personnel

- The building company must provide personnel with adequate means for individual acoustic protection if the noise in the workplace reaches over 85 dB(A).
- All personnel must use this acoustic protection for levels of 90 dB(A) or higher.
- Protective glasses must be provided for the task of eliminating blockages. Protective glasses are considered to be glasses with a frame that meets part 2 of the DIN 58 211 regulation and lenses that meet page 5 of the Din 4647 regulation.

4.1.6 Other suggestions

- It is recommended that only original spare parts and accessories are used.
- No modifications should be made to the original machine.

5 Start-up

5.1 Installation of the machine

The Mini pump must be installed on the flattest surface possible and secured by activating the two wheel brakes. The compressor and driving motor connectors must be connected to the electricity sockets supplied for this purpose on the electronic control panel. There can be no confusion because the connecting sockets and cable lengths are different.

The main motor switch must be placed in the “0” position. The additional cleaning connection and release valves on the water valves must also be closed. Also check that the material stop valve is closed.

5.2 Electricity supply point

Use only a special three-pole 3*2.5 mm² section and 1 KV electricity cable for construction work. In order to avoid voltage losses, the electricity cable must always be unreeled completely!

To ensure proper operation of this machine, it is very important that the power supply is 230 V at the machine's power supply inlet.

WARNING!

5.3 Water supply point

The water hose, which is resistant to creases and high pressures, must be completely unreeled; it must have a minimum interior diameter of 3/4". It must be connected to a suitable tap and any air inside the hose must be eliminated. The water pressure gauge needle must indicate a minimum pressure of 3.5 bars; this can be achieved by installing a pre-fitted pump to increase water pressure between the water supply network and the machine.

5.4 Product hose placement and lubrication

The Mini pump is equipped with an original factory-supplied hose fitted with quick-fitting couplings. The hose distance must be as short as possible. We recommend moistening or lubricating the hose interior to prevent it from becoming blocked. To do so, a coupling is connected to the machine to establish the hose cleaning connection; the hose is filled with water and the water is allowed to run out of the end.

5.5 Connection of the air hose and spraying lance

Unreel the 3/8" air hose, which is resistant to pressure and creases, next to the product hose and connect it to the machine air outlet. When this is done, the compressor hose must be connected to the air pressure gauge and the connection plug to the corresponding electricity socket on the electronic control panel. The spraying lance is connected to the other end of the air hose and the air spray gun is adjusted (the diameter of the product hose nozzle is equal to the distance of the air gun on the spraying lance).

5.6 Checking the rotation direction

- Lower the head motor and remove the beater. Put the motor back in its vertical position.
- Disconnect the water hose from the mixing tube.
- Activate the head motor, compressor and, finally, main switch (red and yellow).
- The motor must rotate in the direction indicated by the arrow on the protective part of the motor fan (anti-clockwise, i.e. to the left).

- If it rotates in the wrong direction, the phases on the lower part of the electricity input plug must be rotated.

WARNING!

If the plug is changed or a main cable extension cable is not used, check the rotation direction again.

5.7 Loading of air into the water regulator

Disconnect the water hose from the mixing tube and leave it in the bucket. Press the electrovalve release button until no bubbles appear in the flow metre.

5.8 Adjustment of the water regulator

While the water valves are being loaded with air, regulate the desired amount of water by pressing the electrovalve release button. Open the water control valve until the buoy reaches approximately 400 l/h.

Note: The amount of water actually required by the product that is being mixed is regulated later by the machine during operation until the desired product consistency is obtained.

5.9 Pressure test of the perpetual screw pump (stator- sleeve)

The Mini pump is equipped with a maintenance-free pumping element (according to customer's request); its pumping pressure is optimally adjusted to the conditions at the work site (according to both material consistency and composition and hose length and diameter). Normally, the pumping elements not requiring maintenance are used until they reach their limit of wear, i.e. until the supply flow is reduced substantially or the consistency of the material ranges between thick and fluid. In these cases, the pump elements must be replaced.

If the wear of the maintenance-free set of pumps has to be controlled or if retensionable sets of pumps are used, pump pressure is calculated as follows:

WARNING!

The water hose is connected to the upper connection of the mixing tube, the pump motor is lowered and the beater is removed from the mixing chamber. Activate the electrovalve release button and let water enter the mixing chamber until it covers the top of the perpetual screw (rotor).

In order to ensure that the water level in the mixing chamber does not continue to rise while the pressure is being adjusted, disconnect the water hose from the mixing tube.

The process described below would be performed in the case with the option of the pressure regulator:

After placing the mixer back in the tube and repositioning the head motor fixed with the safety valve, connect the hydraulic pressure regulator to the sleeve outlet with the release valve open. After briefly starting the head motor (approximately 1 or 2 seconds), the air is eliminated from the pressure regulator. The release valve is then closed and the head motor is reactivated for a few seconds; at the same time, monitor the oscillation of the pressure valve indicator needle.

The upper oscillation value of the pressure valve corresponds to the regulated pressure of the pump!

Hydraulic check rule: if flat plaster is applied using a Dn 25 pipe measuring up to 10 metres in length, the pressure valve must read 15 bars.

5.10 Amount of water required

Immediately before starting the work, make sure that sufficient water is in the mixing chamber (covering the rotor head). If this is the case, introduce water into the mixing chamber following the instructions described in the previous point; if this is not done, dry material may penetrate the sleeve.

WARNING!: *Failure to comply with the foregoing will lead to premature wear and tear or even breakage of the sleeve in a fraction of a second when the pump motor is started **with dry material and without water**.*

5.11 Machine start-up

Activate the main switch and start the pump motor by pressing the green start button. Set the motor speed using the speedometer inside the control panel display. Regulate the speed according to the machine's input voltage; if the voltage is low (around 200-210 V), we recommended setting the speed to approximately speed position N° 4 i.e. 40 Hz. working speed.

Use the control valve to regulate the consistency of the material by adjusting the water flow until you achieve the desired working conditions.

Stop the main motor and connect the product hose to mixing tube outlet. Control the consistency of the material at the end of the hose. With the machine stopped, connect the spraying lance to the product hose. Regulate the water level until you achieve the desired consistency.

WARNING!: *When regulating the amount of water, bear in mind that any changes in consistency due to hose length will only be reflected in the corresponding delay that occurs in the spraying lance.*

5.12 Spraying

The material (mortar or plaster) is applied continuously and horizontally, line by line. The prior condition necessary for continuous work is that there must be sufficient material in the hopper at all times. The level of dry material in the hopper must never fall below the perpetual screw pump axle.

Continuous spraying may be achieved by using the correct rubber nozzle on the spraying lance (diameter 14 mm.). The distance between the spraying lance and the wall must be maintained at between 15 and 30 cm. The pump must be placed in a position that ensures the shortest possible hose length (10 metres). Hose extensions produce greater pressure in the transportation of the hose and consequently greater wear and tear of the pump parts.

6 Speed Variator

This machine incorporates a speed variator or single-phase frequency converter (2.2 kW). The incorporation of this device on the Mini pump provides a machine input power of 230 V, allowing the pump's main motor to operate at 230 V (three-phase).

When the variator is powered on the power elements together with a certain number of control components are connected to the power supply.

Do not touch these elements: they are extremely dangerous.

After disconnecting the variator power, wait for one minute before reusing the device. This time corresponds to the electric discharge time constant of the condensers.

6.1 Commissioning of the DF-DV51 variator



Caution!

Check the following points during or after the "initial operation" so that damage to the motor does not occur:

- Was the direction of rotation correct?
- Has a fault occurred during acceleration or deceleration?
- Was the frequency display correct?
- Did any unusual motor noises or vibrations occur?

If a fault has occurred due to overcurrent or overvoltage, increase the acceleration or deceleration time (→ Section "Acceleration time 1", Page 76 and Section "Deceleration time 1" Page 77).

By default, the ON key and the potentiometer on the keypad (→ Fig. 39 and → Table 7) have no functions assigned to them. For details about activating these operator controls, see Section "Setting the frequency and start command parameters", Page 78.

LCD keypad

The following illustration shows the LCD keypad of the DF5.

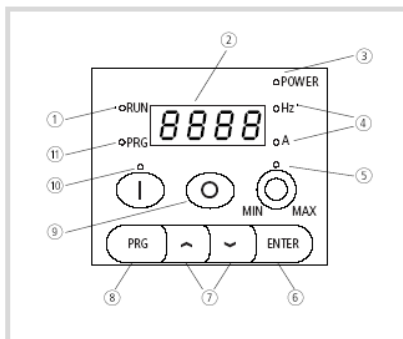


Figure 39: Keypad view

For an explanation of the elements, see Table 7.

Table 7: Explanation of the operating and indication elements

Number	Name	Explanation
①	RUN LED	LED lights up in RUN mode , if the frequency inverter is ready for operation or operational.
②	7 segment display	Display for frequency, motor current, error messages, etc.
③	POWER LED	LED is lit when the frequency inverter has power.
④	Hz or A LED	Indication in ②: output frequency (Hz) or output current (A)
⑤	Potentiometer and LED	Frequency setpoint setting LED is lit when the potentiometer is activated.
⑥	ENTER key 	The key is used for saving entered or changed parameters.
⑦	Arrow keys 	Selecting functions, changing numeric values Increase Reduce
⑧	PRG key 	For selecting and exiting the programming mode.
⑨	OFF key 	Stop the running motor and acknowledge a fault message. Active by default, also for actuation through terminals.
⑩	On key and LED 	Starts the motor in the specified direction (not active by default).
⑪	PRG LED	LED is lit during parameterization.

Operation with LCD keypad

The functions of the DF5 are organized in parameter groups. The following sections describe how to set the parameter values and how the setting menu is structured.

For a detailed description of the parameters, see Section "Setting Parameters", Page 75.

Menu overview

The following figure shows the sequence in which the parameters appear on the display. Table 8 provides a brief description of the parameters.

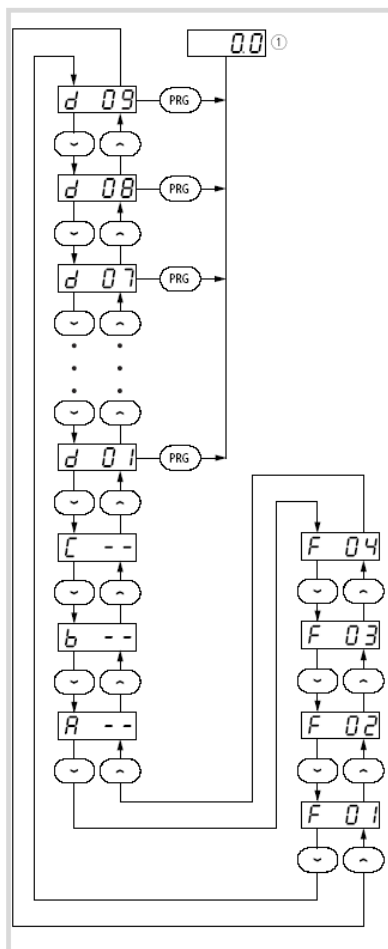


Figure 40: Menu structure of the DFS keypad

- ① The display is dependent on the display parameter (PNU d01 to d09) from which you return.

Table 8: Explanation of the parameters

Display	Explanation
Display parameter	
d 01	Output frequency display
d 02	Output current display
d 03	Direction of rotation display
d 04	PID feedback display
d 05	Digital inputs 1 to 5 status
d 06	Status of digital outputs 11 and 12
d 07	Scaled output frequency
d 08	Display of last alarm
d 09	Display of second and third to last alarm
Basic parameters	
F 01	Frequency setpoint adjustment
F 02	Set acceleration time 1
F 03	Set deceleration time 1
F 04	Direction of rotation adjustment
Extended parameter groups	
A --	Extended functions group A
b --	Extended functions, group B
C --	Extended functions, group C

For a detailed explanation of the parameters, see Section "Setting Parameters", Page 75.

Changing display and basic parameters

Press the PRG key to switch from display or RUN mode to programming mode. The PRG lamp lights up in this mode.

You can access the individual parameters or parameter groups with the UP and DOWN arrow keys (→ Fig. 40).

To access the programming mode, press the PRG key. You can modify the parameter values with the arrow keys. Exceptions are the display parameters PNU d01 to d09. These parameters have no values. After you have selected a display parameter with the arrow keys, you can return to the display mode with the PRG key. The display reflects the selected display parameter (→ Section "Setting the display parameters", Page 75).

Parameter values can be accepted with the ENTER key or rejected with the PRG key.

By pressing the PRG key in the range of the display parameters PNU d01 to d09, you return to the display mode.

Example for changing acceleration time 1: PNU F02

The frequency inverter is in the display mode and the RUN lamp is lit.

- Press the PRG key.

The frequency inverter changes to the programming mode, the PRG lamp lights up and d 01 or the most recently modified parameter appears on the display.

- Press the DOWN key six times until F 02 appears on the display.
- Press the PRG key.

The set acceleration time 1 in seconds appears on the display (WE = 10.0).

- The set value is changed with the UP and DOWN arrow keys.

There are now two possibilities:

- Accept the displayed value by pressing the ENTER key.
- Reject the displayed value by pressing the PRG key.

The display responds with F 02.

- Press the DOWN key six times until d 01 appears on the display.
- Press the PRG key.

The frequency inverter changes over to the display mode and displays the set frequency.

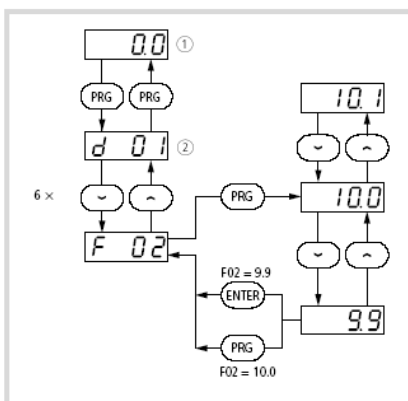


Figure 41: Change acceleration time 1

① Display dependent on the selected display parameter PNU d01 to d09

② Display of the most recently changed parameter

Changing the parameters of the extended parameter groups

The following example illustrates how to change PNU A03 of the extended parameter group A. You can change the parameter values of groups B and C exactly as described in the example. For a detailed description of the extended parameter groups, see from Section "Setting the frequency and start command parameters", Page 78.

An example of how to change the base frequency PNU A0

- Press the PRG key to change over to the programing mode.

The most recently modified parameter appears on the display and the PRG lamp lights up.

- Press the UP or DOWN key until the extended parameter group A -- appears on the display.
- Press the PRG key.

The display indicates A 01.

- Press the UP key twice until A 03 appears on the display.
- Press the PRG key.

The value set under PNU A03 (WE = 50.0) appears.

- You can change the value with the UP and DOWN arrow keys

There are now two possibilities:

- Accept the displayed value by pressing the ENTER key.
- Reject the displayed value by pressing the PRG key.

The display indicates A 03.

- Press the PRG key.

The display indicates A --.

- Press the DOWN key three times until d 01 appears.
- Press the PRG key.

The frequency inverter changes over to the display mode and displays the current frequency.

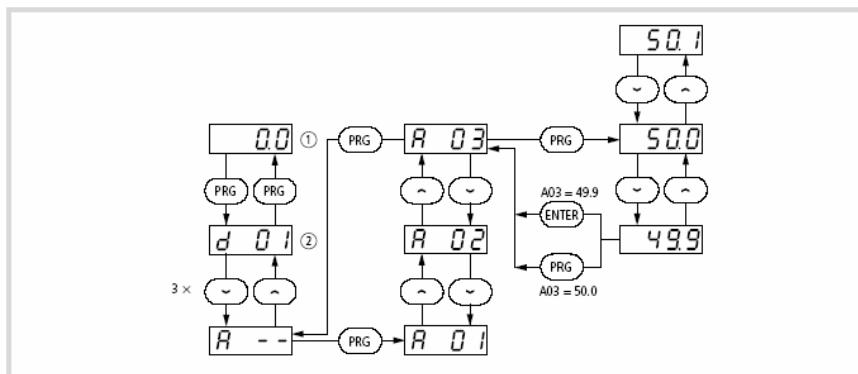




Figure 42: Change the base frequency (example with default setting)

- ① Display dependent on the selected display parameter PNU d01 to d09
- ② Display of the most recently changed parameter

Display after the supply voltage is applied

After the supply voltage is switched on, the last screen which was visible before switch off will reappear (not, however, within the extended parameter groups).

In this section, you will see which parameters can be set using the display on the keypad.

PNU	Name	Function
d01	Output frequency in Hz	Output frequency display from 0.5 to 360 Hz. The "Hz" lamp on the keypad lights up.
d02	Motor current in A	Display of the output current from 0.01 to 999.9 A. The "A" lamp on the keypad lights up.
d03	Direction of rotation	Display: <ul style="list-style-type: none"> • F for clockwise rotation (forward), • r for anticlockwise rotation (reverse), • Ø for stop
d04	Actual value × factor	Only with active PID closed loop control. The factor is set under PNU A75 and can have a value from 0.01 to 99.99; the default setting is 1.0.
d05	Status of digital inputs 1 to 5	 Example: Digital inputs 1, 3 and 5 are activated. The digital inputs 2 and 4 are deactivated.
d06	Digital outputs 11 and 12 and fault message output	 Example: The digital output 11 and the signal output K14 are activated. Digital output 12 is deactivated.
d07	Output frequency × factor	The display of the product of the factor (PNU b86) and the output frequency in the range 0.01 to 99990. Examples: <ul style="list-style-type: none"> • Display 11.11 corresponds to 11.11, • 111.1 corresponds to 111.1, • 1111. corresponds to 1111, • 1111 corresponds to 11110.
d08	Last alarm indication	Display of the most recent fault message and (after the PRG key is pressed) the output frequency, motor current and DC bus voltage at the time the fault occurred. If a fault message is not available, the display shows ---
d09	Older fault messages (fault message register)	Display of the second from last and (after the PRG key is pressed) third from last fault message. If neither the second last or third last fault message has been stored, the display shows ---

Fault correction

Fault	Condition	Possible cause	Remedy
The motor will not start.	There is no voltage present at outputs U, V and W.	Is voltage applied to terminals L, N and/or L1, L2 and L3? If yes, is the ON lamp lit?	Check terminals L1, L2, L3 and U, V, W. Switch on the supply voltage.
		Does the LED display on the keypad indicate a fault (E)?	Analyze the cause of the fault signal (→ Section "Messages", Page 103). Acknowledge the fault message with the reset command (e.g. by pressing the OFF key).
		Has a start command been issued?	Issue the start command with the ON key or through the FWD/REV input.
		Has a frequency setpoint value been entered under PNU F01 (keypad operation only)?	Enter a frequency setpoint value under PNU F01.
		Are the setpoint definitions via the potentiometer correctly wired to terminals H, O and L?	Check that the potentiometer is connected correctly.
		Are inputs O and/or OI correctly connected for external setpoint definition?	Check that the setpoint signal is correctly connected.
		Are the digital inputs configured as RST or FRS still active?	Deactivate RST and/or FRS. Check the signal on digital input 5 (default setting: RST).
		Has the correct source for the frequency setpoint (PNU A01) been set? Has the correct source for the start command (PNU A02) been set?	Correct PNU A01 accordingly. Correct PNU A02 accordingly. (→ Section "Setting the frequency and start command parameters", Page 78)
	There is voltage present at outputs U, V and W.	Is the motor blocked or is the motor load too high?	Reduce the load acting on the motor. Test the motor without load.
The motor turns in the wrong direction.	–	Are output terminals U, V and W correctly connected? Does the connection of terminals U, V and W correspond with the direction of rotation of the motor?	Connect output terminals U, V and W correctly to the motor according to the required direction of motor rotation (generally the sequence U, V, W causes clockwise rotation).
		Are the control signal terminals correctly wired?	Use control signal terminal FWD for clockwise rotation, REV for anticlockwise rotation.
		Has PNU F04 been correctly configured?	Set the required direction of rotation under PNU F04.
The motor will not start.	–	A setpoint value is not present on terminal O and/or OI.	Check the potentiometer or the external setpoint generator and replace if necessary.
		Is a fixed frequency accessed?	Observe the sequence of priority: the fixed frequencies always have priority over the inputs O and OI.
		Is the motor load too high?	Reduce the motor load as the overload limit will prevent the motor reaching its normal speed if there is an overload.

Fault	Condition	Possible cause	Remedy
The motor does not operate smoothly.	–	Are the load changes on the motor too high?	Select a frequency inverter and motor with a higher performance. Reduce the level of load changes.
		Do resonant frequencies occur on the motor?	Mask these frequencies with the frequency jumps (PNU A63 to A68, → Section "Operating frequency range", Page 83) or change the pulse frequency (PNU b83, → Section "Carrier frequency", Page 101).
The drive speed does not correspond with the frequency	–	Is the maximum frequency set correctly?	Check the set frequency range or the set voltage/frequency characteristic.
		Are the rated speed of the motor and the gearbox reduction ratio correctly selected?	Check the rated motor speed or the gearbox reduction ratio.
The saved parameters do not correspond to the entered values.	Entered values have not been saved.	The supply voltage was switched off before the entered values were saved by pressing the ENTER key.	Reenter the affected parameters and save the input again.
		After the supply voltage was switched off, the entered and saved values are transferred into the internal EEPROM. The supply voltage should remain off for at least six seconds.	Enter the data again and switch off the supply voltage for at least six seconds.
	The values of the copy unit were not accepted by the frequency inverter.	After copying the parameters of the external keypad DEX-KEY-10 into the frequency inverter, the supply voltage was left on for less than six seconds.	Copy the data again and leave the supply voltage on for at least six seconds after completion.
It is not possible to make any inputs.	The motor cannot be started or stopped or setpoint values cannot be set.	Are PNU A01 and A02 set correctly?	Check the settings under PNU A01 and A02 (→ Section "Setting the frequency and start command parameters", Page 78).
	No parameters can be set or changed.	Has the software parameter protection been activated?	Deactivate the parameter protection with PNU b31 (→ Section "Parameter protection", Page 100), so that all parameters can be changed again.
		Has the hardware parameter protection been activated?	Deactivate the digital input configured as SFT (→ Section "Software protection SFT", Page 66).
The electronic motor protection activates (fault message: E 05).		Is DIP switch position 4 (external keypad DEX-KEY-10) set to ON?	Set switch 4 to the OFF position so that data can be read from the remote operating unit.
		Is the manual boost set too high? Were the correct settings made for the electronic motor protection?	Check the boost setting and the electronic motor protection setting. (→ Section "Voltage/frequency characteristics and boost", Page 81)

To be observed when saving changed parameters:

After saving changed parameters with the ENTER key, no inputs can be made using the keypad of the frequency inverter for at least six seconds. If, however, a key is pressed before this time elapses, or if the reset command is issued or the frequency inverter is switched off, the data may not be correctly saved.

7 Interruptions in Operation

7.1 Brief interruptions

In order to transfer the machine from one place to another, simply disconnect the machine using the spraying lance cut-off valve. This will stop the head motor automatically. Turn off the main switch and stop the material conveyor so that no moisture penetrates the dry material hopper.

WARNING!: *Remember that in the event of work interruptions during operation, the spraying lance must always be placed with the material nozzle facing downwards, otherwise the material that continues to run out will obstruct the air diffuser.*

7.2 Long interruptions in work and completion of work

In the event of interruptions in work that exceed material setting times (end of spraying), the following procedure may be performed to clean the mixing chamber and material hoses thoroughly:

- Stop the head motor by placing the switch to the “0” position.
- Remove the beater from the mixing tube and replace it with the cleaning tool.
- Briefly start the head motor and various times and then introduce the cleaning scraper in the mixture tube. This will eliminate material remains deposited in the mixing tube and allow them to be pumped through the product hose.
- Check that the material hose has no pressure. To be safe, disconnect the hose (look away and use protective glasses!) from the pump outlet.
- After removing the cleaning tool, clean, dry and replace the mixture tree. Dry material may stick to the beater (mixer) if this is moist when activated and may cause faults.
- Remove the rubber nozzle from the spraying lance and wash it thoroughly with water.
- Connect the cleaning adapter to the product hose and introduce the rubber ball under pressure. This ball is pressurised through the hose by the thrust of the water, thus cleaning the hose. The rubber ball remains trapped in the spraying lance diffuser.
- After closing the cleaning connection, disconnect the spraying lance from the hose and then remove the hose from the cleaning connection.



WARNING!: *In order to prevent foreign bodies from entering the hose, connect both hose end couplings after you have unreeled the hoses. This will prevent faults caused by foreign bodies from occurring.*

- Once the air diffuser has been removed from the spraying lance, the rubber ball may be removed. Clean the air diffuser using the nozzle cleaning tool and running water. Clean the spraying lance with water. Make sure that the material nozzle housing is completely clean and that the nozzle is not pressurised by the pressure of the material in the spraying lance.
- During longer pauses in work, and as a minimum whenever work has been completed, water must be removed from the regulator, particularly when there is danger of frost forming (cold areas); this can be done by opening both release valves. Air must also be injected into the water valves; connect the compressor to the machine water inlet, disconnect the water hose from the mixing tube and with the release valves open, inject air using the electrovalve release button. The compressor is activated using the main switch.

WARNING!: *By removing water in both summer and winter you will have no unpleasant surprises due to frost!*

- Particularly when working with smooth plaster, clean the pump outlet at least once a day; otherwise material may be deposited in the pump outlet that can cause higher pressure and, consequently, greater wear and tear of pump components. By loosening both fastener screws, the sleeve support device on the mixture tube can be easily disassembled in order to clean the chamber thoroughly.
- The dry material hopper only has to be cleaned when working with a different class of dry material or when the machine is prepared for use during prolonged periods of time.

7.3 Stoppage of the machine

If the Mini pump is not used for prolonged periods, e.g. during winter, we recommend that you unscrew the sleeve rotor and perform the cleaning work described in the previous point. In this way, sleeve contour deformations are avoided and the rotor is prevented from becoming stuck.

8 Service and maintenance

Make sure that the machine is not turned on accidentally when maintenance work and repairs are being performed (disconnect the current entry).

The Mini pump has been built in such a way that it requires only minimum maintenance. However, in order to ensure perfect operation, the mixing tube, beater and material hopper must be free of hard material remains at all times.

The electronic control panel must be kept dry and free of dust inside. Whenever necessary, remove dust from the control panel using a vacuum cleaner and after disconnecting the pump from the mains. We do not recommend blowing compressed air since dust lifted as a result is deposited on the connection contacts and may render these unusable.

The reducer motors are lubricated for their entire working lives. However, if any grease is expelled, it must be replaced with ENERGREASE or a similar lubricating substance. If this happens, make sure not to exceed the specific amounts. Also, make sure that no material is stuck to the stator refrigeration wings or ventilator.

The **York** absorption valve of the water hose from the drum to the machine must be cleaned daily before starting work and the pressure reducer filter must be cleaned once a week; in order to perform this last operation, use the special valve supplied with the machine.

WARNING! *When assembling the filtering deposit, make sure that the ring seal is correctly positioned.*

Whenever necessary, use a damp cloth to clean the water metre indicator tube. If the indicator tube has turned dark in colour due to interior adhesions, remove the tube by loosening both joint screws and clean it inside using a cloth. Never use a metallic brush or similar device!

In order to ensure that the air diffuser can move freely inside the spraying lance tubing at all times, grease this slightly after cleaning.



Before performing any maintenance or cleaning work on electrical equipment, remove the plug from the mains.

From time to time, remove the electrical connectors from the control panel and apply a little grease to the contacts. This will ensure the proper functioning of the connectors and prevent the contacts from burning.

Remove and shake the filter disks on the extraction side of the membrane compressor and on the other side at least twice a week when cleaning the interior and every 14 days when cleaning the exterior. In this respect, make sure that the filters with thick soft surfaces are placed outwards and the thin hard surface filters inwards.

9 Faults and corrective actions

Faults in the Mini pump can be eliminated very simply by performing a small number of operations. When eliminating these faults, it is essential that you comply with the following rules:

1. Before opening the control panel door, disconnect the machine from the mains!
2. Whenever working with moving parts of the machine, turn off the main switch or remove the plug from the power supply socket!
3. Work on the electronic control devices and valves must only be performed by specialised service personnel!

FAULT	CAUSE	ELIMINATION
Machine does not start	No power supply	Check electricity cable and electric connectors. Check 16 A. delayed-action fuses in the main circuit board at the work site.
	Switchgear	Turn the black buttons on the control panel.
	Insufficient water pressure	Increase the water supply to at least 3 bars and if necessary use a pump to increase pressure.
The machine works for short periods and then stops.	The hose is blocked.	Check the water supply hose (diameter 3/4") with respect to the narrow transversal sections (e.g. creases)
	Insufficient water supply.	Use other water supply points with larger transversal supply sections or use a water barrel with pump.
The main motor stops after the machine is started.	The thermal protection of the variator has been activated due to high consumption by the motor	Check the input current voltage. Recommended voltage: 230 V.
	Pump blocked by material remains.	Disassemble the maintenance perpetual screw sleeve, dismantle, clean and reassemble.
	Pump blocked due to use when dry.	Control the water input in the mixing tube and if necessary loosen the perpetual screw using the rotating tool and start the pump with sufficient water.
The machine stops during operation or cannot be started from the spraying lance after a pause in work.	Power cut	Re-establish the electricity supply and start the machine using the pump control.
	No water	Re-establish the water supply and start the machine using the pump control.
	Blocked air diffuser	Stop the machine using the pump control and clean the air diffuser thoroughly using the piquera or check for any obstruction in the air hose.
The water level rises in the mixing tube when the machine is	Incorrect rotation direction	Change the position of the manual phase inverter on the electronic control panel.
	Too much water.	

working.	<p>The parts of the pump are worn.</p> <p>The material hose is blocked.</p>	<p>Regulate the water slowly by reducing the water level until achieving the desired consistency.</p> <p>With free maintenance pumps, assemble new parts and if necessary use a pump with a greater supply pressure.</p> <p>Eliminate any obstructions in the hose.</p>
The consistency of the material is too liquid or varies at irregular intervals.	<p>Not enough dry material is being fed into the pump.</p> <p>Excessive water affluence.</p> <p>Material is stuck to the mixing beater.</p>	<p>Refill the material tank with dry material (the level of dry material must never be below the perpetual screw pump axle)</p> <p>Regulate the water slowly by reducing the water level.</p> <p>Stop the machine using the main switch, lower the head motor, remove the mixing beater, clean, dry and reassemble.</p>
The water rises in the mixing chamber when the machine is not being used.	Faulty electrovalve.	Unscrew the upper part of the electrovalve and remove it carefully, since it has pretensioned springs inside. Clean the control drill as well as the membrane and reassemble the electrovalve.
The machine cannot be stopped using the pneumatic control and/or the compressor does not stop during pauses in work.	<p>Leaking air valve.</p> <p>Defective compressor.</p> <p>Badly set pressure valve (air pressure valve).</p>	<p>Check the air tightness of the air hose and the connections and change defective parts.</p> <p>Check the pressure of the compressor on the pressure valve of the water input by connecting the compressor to this. If a minimum of 3 bars of pressure is not achieved, the compressor must be repaired at the Service workshop.</p> <p>Ask the Service workshop to check the operation of the pressure thermostat and reset this if necessary (start = 1.1 bars; stop = 2.5 bars)</p>

10 Accessories

You may extend the scope of application of the pump with original Mini pump accessories and thus improve the handling of your equipment.

In numerous applications of the Mini pump, material is loaded by pneumatic conveyor equipment from either a static or pressurised silo. In these cases, an airtight insufflation hood is placed on the dry material recipient of the device in order to channel the dry material and also filter dust from the supplied air. The dome of the hood is capped by a large filter, and also has an inspection hatch that can be closed, as well as a rotating vaned probe with a socket for connecting the control cable for the pneumatic conveyor equipment for static silos, or a device for pressurised silos. Four eccentric locks are fitted to the sides of the machine, fastened by hooks under the profiled moulding of the machine's material recipient, and which securely fasten the insufflation hood, rendering it fully dust-proof.

You can find many more accessories and all necessary spare parts in our catalogue, including details of prices, tools and spare parts.

Use only original spare parts and accessories for purchased equipment!



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We reserve the right to introduce technical modifications.

11 EC Declaration of Conformity

Pursuant to Machinery Directive 98/37/EC,

the Company:

UTIFORM TECHNOLOGIES S.L.
Pol. Ind. Las Maromas, Esq. C/ Francia y Irlanda
03160 ALMORADÍ (Alicante) SPAIN

hereby states, under its sole and exclusive responsibility, that the manufacture of the machine

Model : **MINI**
 Machine number
 Description : **Pumping machine for mixing bagged materials**

complies with the basic requirements of the Royal Decree 1435/92 (27-11-92) relating to Machine Safety, modified by Royal Decree 56/95 (20-01-95) and Royal Decree 1215/97 (18-07-97), which establishes the minimum safety and health regulations for the use of works equipment by workers.

Moreover, in line with the stipulations of the following EU directives:

Directive 98/37 CEE (22-06-98) regarding the approximation of legislations of member States on machines, which was modified by the directive 98/79 (27-10-98)

Directive 89/336/CEE (19-02-73) regarding the approximation of legislations of the member States, about electromagnetic compatibility, which was modified by the directive 92/31/CEE and 93/68/CEE, incorporated to the Spanish legislation by means of the **R.D.** (Royal Order) 444/1994 (11-03-94), in which evaluation proceedings of conformity are established and the requisites of protection related to the electromagnetic compatibility of equipments, systems and installations, modified by the **R.D.** 1950/1995 (01-12-1995).

Directive 89/336/CEE (19-02-73) regarding to the approximation of legislations of the member States, about sound emissions in the environment given to the use of machines in open air.

Concerning **Directive 98/37/CE**, the self declaration has been carried out, being the machine in conformity with dispositions and requisites of the following European Norms:

EN 292-1; 1991. - Security of machines. Basic concepts, general principles for the design. Part 1: Basic terminology, methodology.

EN 292-2; 1991. - Security of machines. Basic concepts, general principles for the design. Part 2: Principles and technical specifications. (Modification A1)

EN 294:1992. - Security of machines. Safety distances to avoid reaching dangerous zones with upper members.

Likewise, there are in conformity with the following Norms:

EN 60204-1:1997.- Safety of machines. Electric equipment of the machines. Part 1: General requirements

EN 418:1992.- Safety of machines. Equipment for emergency stop, functional aspects. Design principles

Concerning Directive **89/336/CE**, the self declaration has been carried out, being the machine in conformity with dispositions and requisites of the following European Norms:

EN 50081-1:1992. - Electromagnetic compatibility. Generic emission Norm. Part 1: Residential, commercial and industry

EN 50082-1:1992. - Electromagnetic compatibility. Generic immunity Norm.

Part 1: Residential, commercial and industry

This Certificate of Conformity shall be limited in terms of responsibility for testing, if the retailer or distributor on its own account and at its own risk, and with our express authorisation, makes changes to the machines, uses the machines for other purposes than those specified for them or for work in a country outside the territory in which the EU regulations 98/37 CEE are applicable, or in the case of repair by non-authorised third parties, with assembly of parts and wear and tear.

Almoradí,

Miguel Ángel Peco
Industrial Technical Engineer

12 Appendix

12.1 Combined diagram

12.2 Water system

12.3 Air system

12.4 Water pump

12.5 Compressor delta 75

12.6 Straight spraying gun and hoses

12.7 Fittings

12.8 Circuit board

12.9 Mini 220 V electronic control panel distribution

12.10 Mini 220 V electronic control panel connection.

12.11 Mini 220 V electronic control panel variator outlet.

12.12 Mini 220 V electronic control panel power diagram.

12.13 Mini 220 V electronic control panel manipulation diagram.

12.14 Mini 220-380 V electronic control panel distribution.

12.15 Mini 220-380 V electronic control panel connection.

12.16 Mini 220-380 V electronic control panel variator outlet.

12.17 Mini 220-380 V electronic control panel product outlet.

12.18 Mini 220-380 V electronic control panel power diagram.

12.19 Mini 220-380 V electronic control panel manipulation diagram.



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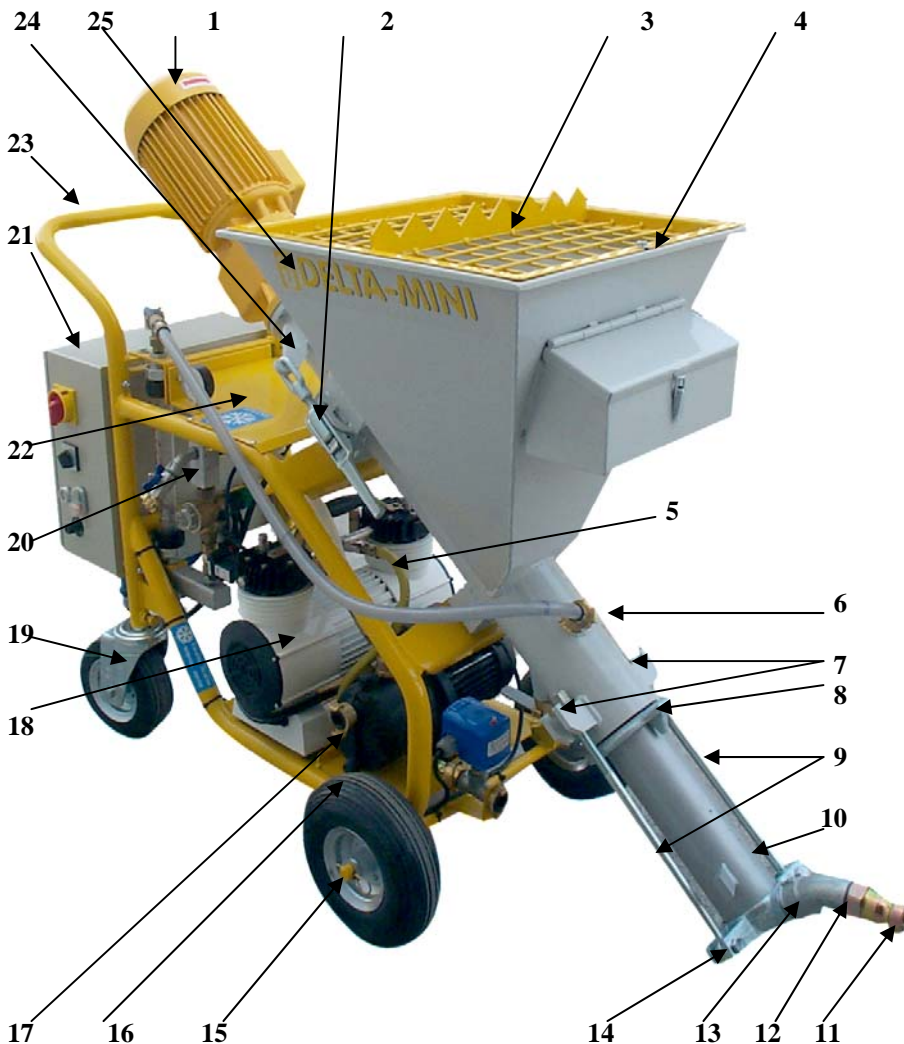
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12.1	PLANO GENERAL	COMBINED DIAGRAM	ALLGEMEINES SCHAUBILD	PLAN GÉNÉRAL
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12.1	PLANO GENERAL	COMBINED DIAGRAM	ALLGEMEINES SCHAUBILD	PLAN GÉNÉRAL
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Nº	Ref.	Uds.	Descripción	Description	Bezeichnung	Désignation
1	75003	1	MOTOREDUCTOR 3 Kw. 400 V. 50/60 Hz.	GEARBOX 3 Kw. 400 V. 50/60 Hz.		MOTOREDUCTEUR 3 Kw. 400 V. 50/60 Hz.
	45009	1	CAMPANA MOTOR 30 MM.	METAL BELL MOTOR 30 MM.	MOTOR DECKHAUBE 30MM.	CLOCHE MOTEUR 30 MM.
	Versión Mini 220 V.					
	36007	1	MANG. ELECTRICA 5x2'5	ELECTRIC CABLE 5x2'5	STROMKABEL 5x2'5	CABLE ELECTRIQUE 5x2'5
	37000	1	CLAVIJA 16 A. 3P+T/6h.			FICHE 16 A. 3P+T/6h.
	Versión Mini 220-380 V.					
	36022	1	MANG. ELECTRICA 7x2'5	ELECTRIC CABLE 7x2'5	STROMKABEL 7x2'5	CABLE ELECTRIQUE 7x2'5
	37008	1	CLAVIJA AEREA 16 A. 7P/9h. 230 V. 50/60 Hz.	PLUG 16 A. 7P/9h. REF.741		FICHE 16 A. 7P/9h. REF.741
	2	3841002030	CIERRE TUBO MEZCLA C/SEGURO 40 MM.	FASTENER MIXING TUBE WITH SAFETY 40 MM.		FERMETURE TUBE MELANGE AVEC SECURITE 40 MM.
	3	45056	REJILLA TOLVA DELTA-MINI	GRILL HOPPER DELTA-MINI		GRILLE TREMIE DELTA-MINI
4	41170	1	TORNILLO C/ARANDELA D6921 M8x16	SCREW D6921 M8x16		VIS AVEC RONDELLE D6921 M8x16
5	39501	1	TRAMO MANG. AIRE 3/8" COMPRESOR-MAQ. HANDY	HOSE PART AIRE 3/8" COMPRESOR-MAQ. HANDY		TUYAU AIR 3/8" COMPRESSEUR-MACHINE HANDY
	434091	1	VALVULA ANTIRETORNO 1/4"	VALVE NON-RETURN 1/4"		SOUPAPE ANTIRETOUR 1/4"
6	77020	1	ACOPL. GEKA R. INT. 3/4"	CUPPLING GEKA INT. THREAD 3/4"	KUPPLUNG GEKA INNENGEWINDE 3/4"	RACCORD GEKA R. INT. 3/4"
7	45075	2	TUERCA TENSOR CAZOLETA M16 DIN 6331	SCREW BRACKET BEARING M16 DIN 6331		
8	45000	1	BRIDA UNION TUBO MEZCLA	CLAMP JOINT MIXING TUBE		BRIDE UNION TUBE MALAXAGE
	45046	1	JUNTA TORICA 100x5 -BRIDA UNION-	RING SEAL 100x5 -BRIDA UNION-		JOINT TORIQUE 100x5 -BRIDE UNION-
9	31022	2	TORNILLO CON OJO M16	SCREW M16		VIS AVEC OEIL M16
10	71011	1	CAMISA D4 MW PLATA-ECO	STATOR D4 MW SILVER-ECO	STATOR D4 MW SILBER-ECO	JAQUETTE D4 MW ARGENT-ECO
	72009	1	ROTOR D4 MW PLATA-ECO	ROTOR D4 MW SILVER-ECO	ROTOR D4 MW SILBER-ECO	ROTOR D4 MW SILVER-ECO
11	76010	1	ACOPL. SKK V 25 R. INT. 1 1/4"	CUPPLING SKK V 25 INT. THREAD 1 1/4"	KUPPLUNG SKK V INNENGEWINDE 1/4"	RACCORD SKK V 25 R. INT. 1 1/4"
12	32602	1	CURVA 45° M-H 1 1/4"	CURVE 45° M-H 1 1/4"		COURBE 45° M-H 1 1/4"
13	31020	1	CAZOLETA SALIDA MATERIAL MASTER/DELTA-MIX	SHIELD MATERIAL OUTLET MASTER/DELTA-MI		POCHE SORTIE MATERIEL MASTER/DELTA-MIX
	41116	2	TORNILLO D931 M12x65	SCREW D931 M12x65		VIS D931 M12x65
14	41213	1	TUERCA AUTOBLOC. D985 M12		SICHERHEITSMUTTER M12	ECROU AUTOBLOQUANT D985 M12
	41603	2	PASADOR DE ALETA 4x40			GOUPILLE D'EMPENNAGE 4x40
16	28200260085	2	RUEDA MACIZA 260/85	WHEEL 260/85		ROUE PNEUMATIQUE 260/85
17	39953	1	BOMBA AGUA 230 V. PARO TOTAL COMPLETA	WATER PUMP 230 V. AUTOM. SHUT OFF SYSTEM COMPLET		POMPE EAU 230 V. ARRET TOTAL COMPLETE
18	52426870	1	COMPRESOR 230 V. 50 Hz. (1 ph)	COMPRESOR 230 V. 50 Hz. (1 ph)		COMPRESSEUR 230 V. 50 Hz. (1 ph)
19	28264200070	1	RUEDA GIRAT. C/FRENO 200/70 (27x60) BULON GRUESO	WHEEL TURN. WITH BRAKE 200/70 (27X60)		ROUE GIRAT. AVEC FREIN 200/70 (27x60)
	28260200070	1	RUEDA GIRAT. S/FRENO 200/70 (27x60) BULON GRUESO	WHEEL TURN. NO BRAKE 200/70 (27X60)		ROUE GIRAT. SANS FREIN 200/70 (27x60)

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20	39907	1	TUBERIA AGUA MASTER/DELTA-MIX C/VALV. REG. CAUDAL	WATER TUBING CPL. MASTER/DELTA-MIX WITH VALVE RE		TUYAUTERIE EAU MASTER/DELTA-MIX AVEC SOUPAPE. REG. DEBIT
21	30530024	1	CUADRO ELECTRICO DELTA-MINI 220 V-VARIADOR	ELECTRIC BOX DELTA-MINI 220 V-VARIADOR		TABEAU ELECTRIQUE DELTA-MINI 220 V-VARIATEUR
	30530025	1	CUADRO ELECTRICO DELTA-MINI 220-380 V-VARIADOR	ELECTRIC BOX DELTA-MINI 220-380 V-VARIADOR		TABEAU ELECTRIQUE DELTA-MINI 220-380 V-VARIATEUR
22	39005	1	CHAPA PROTECC. DELTA MINI	PROTECTION PLATE DELTA MINI		PLAQUE PROTEC. DELTA MINI
23	001031130	1	CHASIS DELTA-MINI	CHASSIS DELTA-MINI		CHASSIS DELTA-MINI
24	39043	1	BRIDA SUPERIOR MOTOR DELTA-MINI	CLAMP SUPERIOR MOTOR DELTA-MINI		BRIDE SUPERIEURE MOTEUR DELTA-MINI
	46164	1	PASADOR TUBO MEZCLA MINI	BLOCK SUSPENSION PASS FOR MIXINGTUBE		CHEVILLE A 'ILLET GOUPILLE TUBEMELANGE
25	001031130	1	TOLVA DELTA-MINI			

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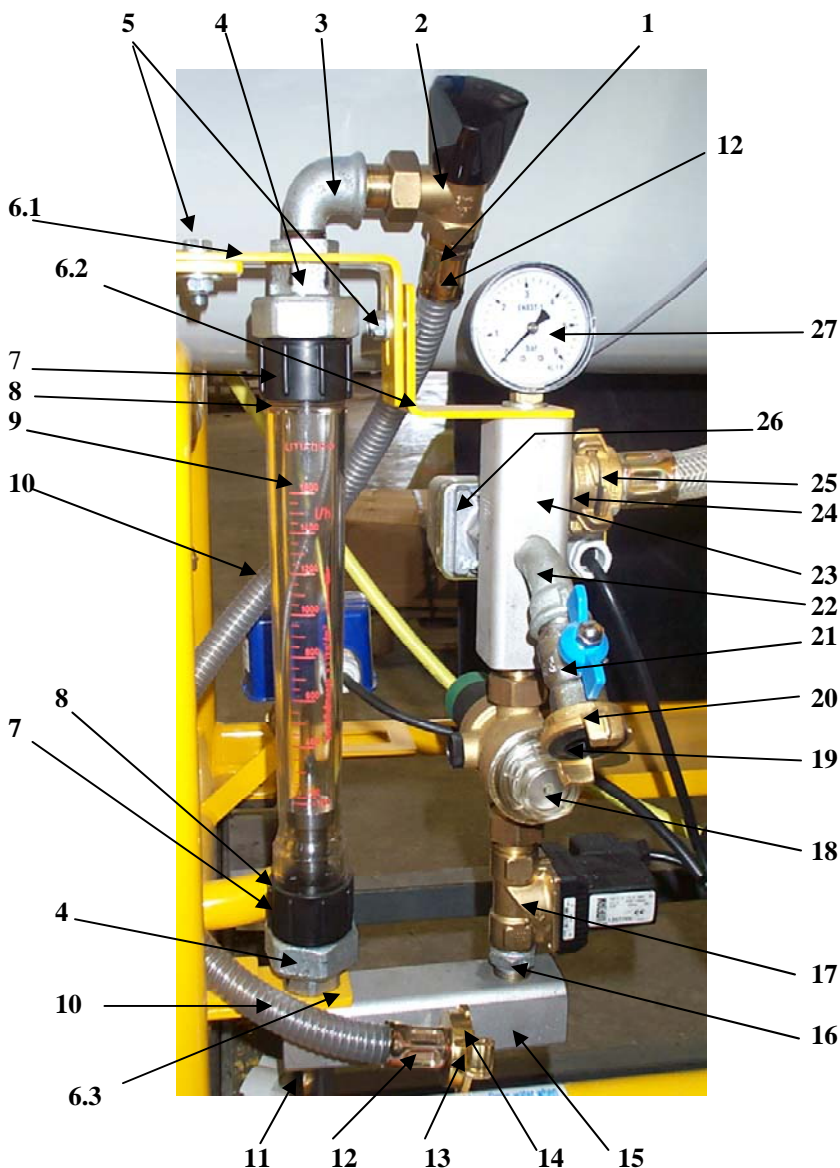
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12.2	SISTEMA AGUA	WATERSYSTEM	WASSERARMATUREN	SISTÈME EAU
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NOTA: La empresa Utiform se reserva el derecho de efectuar cualquier modificación técnica con tendencia a mejorar la máquina, aunque no esté contemplada en esta manual.

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12.2	SISTEMA AGUA	WATERSYSTEM	WASSERARMATUREN	SISTÈME EAU
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Nº	Ref.	Uds.	Descripción	Description	Bezeichnung	Désignation
	39907	1	TUBERIA AGUA MASTER/DELTA-MIX C/VALV. REG. CAUDAL	WATER TUBING COMPLETE	WASSERLEITUNGEN MASTER / DELTA-MIX MIT REGELVENTIL	TUYAUTERIE EAU MASTER/DELTA-MIX AVEC SOUPAPE. REG. DEBIT
1	32005	1	OLIVETA 1/2" ESPIGA R. EXT. 1/2"	MALE THREAD STEM BRASS 1/2" EXT. 1/2"	SCHLAUCHTÜLLE 1/2" ZAPPEN A. GEW. 1/2"	OLIVETA 1/2" CHEVILLE R. EXT. 1/2"
2	670115101	1	VALVULA REGULADOR CAUDAL 1/2"	WATER REGULATING TAP 1/2"	DURCHSATZ DOSIERVENTIL 1/2"	SOUPAPE REGULATEUR DEBIT 1/2"
3	32502	1	CODO 90º M-H 1/2" GALVANIZADO	BEND 90º M-H 1/2" GALVANIZED	CODO 90º M-H 1/2" GALVANIZADO	COUDE 90º M-H 1/2" GALVANISE
4	45033	2	TUERCA METALICA DOSIFICADOR AGUA 1600	SCREW METAL WATER METER 1600	SCHRAUBE METALL FÜR WASSERDOSIER 1600	ECROU METALLIQUE DOSEUR EAU 1600
5	41101	3	TORNILLO D933 M8x20	SCREW D933 M8x20	SCHRAUBE DIN 933 M8x20	VIS D933 M8x20
	41211		TUERCA AUTOBLOC. D985 M8	SELF-BLOCKING SCREW D985 M8	MUTTER SELBSTHEMMEND DIN 985 M8	ECROU AUTOBLOQUANT D985 M8
6.1	001025501	1	PLETINA TUBERIA AGUA MASTER (DOSIFICADOR)	TAP SET FLANGE TILE MASTER 2 PIECES	HALTERUNG 2-TEILIG	PLATINE ROBINETTERIE EAU MASTER 2 PCS. (DOSEUR)
6.2	001025502		PLETINA TUBERIA AGUA MASTER (BLOQUE AL. VERTICAL)	TAP SET FLANGE TILE MASTER 2 PIECES	TAP SET FLANGE TILE MASTER 2 PIECES	PLATINE ROBINETTERIE EAU MASTER 2 PCS. (BLOC VERT.)
6.3	39032		PLETINA TUBERIA AGUA (sencilla)	WATER DOSING MACHINE FLANGE TILE	HALTERUNG DURCHFLUSSMESSER	PLAT DOSEUR D'EAU (SIMPLE)
7	45032	2	ROSCA PLAST. DOSIF. 1600	PLASTIC THREAD DOSIF. 1600	PLASTIKGEWINDE DOSIER 1600	FILET PLAST. DOSEUR 1600
8	45030	2	JUNTA TORICA 28x3 -DOSIFICADOR-	RING SEAL 28x3 -DOSIFIER-	O-RING 28x3 -DOSIER-	JOINT TORIQUE 28x3 -DOSEUR-
9	45035	1	TUBO DOSIFICADOR AGUA 1.600	WATER METER TUBE 1600	DURCHFLUSSMESSER 1600	TUBE DOSEUR EAU 1.600
10	38202	0,8 mts.	MANG. AGUA TRANSMETAL 14x20 MM.	WATER HOSE TRANSMETAL 14X20 MM	WASSERSCHLAUCH TRANSMETALL 14x20 MM	TUYAU EAU TRANSMETAL 14x20 MM.
11	309702	1	GRIFO PURGA 1/4" M-H	HANDLE 1/4" MALE - FEMALE	ABLASSHAHN 1/4" M-H	ROBINET PURGE 1/4" M-H
12	LPH-22	2	CASQUILLO 22 MM. P/MANG	SOCKET 22 MM. FOR HOSE	BAGUE 22 MM P/TUYAU	SPANNHÜLSE 22 MM FÜR SCHLAUCH
13	77003	1	ACOPL. GEKA P/MANG. 1/2"	COUPLING GEKA FOR HOSE 1/2"	RACCORD GEKA POUR TUYAU 1/2"	KUPPLUNG GEKA F. SCHLAUCH 1/2"
14	77023	1	JUNTA ACOPL. GEKA	GEKA GASKET	DICHTRING KUPPL. GEKA	JOINT RACCORD GEKA
15	39509	1	BLOQUE AL. VERT. GRIFERIA AGUA MASTER	VERT. BLOCK WATER TUBING	ALUMINIUMBLOCK VERTIKAL FÜR WASSERLEITUNG MASTER	BLOC VERT. ROBINETTERIE EAU
16	32710	1	MACHON REDUCIDO 3/4"-1/2"	CONNECTING ROD REDUCED 3/4"-1/2"	REDUZIERTSCK REDUZIERT 3/4"-1/2"	PIEDROIT REDUIT 3/4"-1/2"
17	45018	1	ELECTROVALVULA 42 V.	ELECTRIC VALVE 42 V.	ELEKTROVENTIL 42 V.	ELECTROVALVE 42 V.
18	45079	1	REGULADOR PRESIÓN R 1/2"	PRESSURE REGULATOR R 1/2"	DRUCKREGLER R 1/2"	REGULATEUR PRESSION R 1/2"
19	77023	2	JUNTA ACOPL. GEKA	GEKA GASKET	DICHTRING KUPPL. GEKA	JOINT RACCORD GEKA
20	77012	1	ACOPL. GEKA R. EXT. 1/2"	COUPLING GEKA EXT. THREAD 1/2"	KUPPLUNG GEKA AUSSENGEWINDE 1/2"	RACCORD GEKA R. EXT. 1/2"
21	303604	1	VALVULA ESFERA 1/2" M-H	VALVE BALL 1/2" M-F	KUGELVENTIL 1/2" M-V	SOUPAPE SPHERIQUE 1/2" M-H
22	32601	1	CURVA 45º M-H 1/2"	CURVE 45º M-H 1/2"	WINKELROHR 45º M-H 1/2"	COURBE 45º M-H 1/2"
23	39509	1	BLOQUE AL. VERT. GRIFERIA AGUA MASTER	VERT. BLOCK WATER TUBING	ALUMINIUMBLOCK VERTIKAL FÜR WASSERLEITUNG MASTER	BLOC VERT. ROBINETTERIE EAU
24	77012	1	ACOPL. GEKA R. EXT. 1/2"	COUPLING GEKA EXT. THREAD 1/2"	KUPPLUNG GEKA AUSSENGEWINDE 1/2"	RACCORD GEKA R. EXT. 1/2"
25	77023	1	JUNTA ACOPL. GEKA	GEKA GASKET	DICHTRING KUPPL. GEKA	JOINT RACCORD GEKA
26	45053	1	PRESOSTATO AGUA MASTER-MIX	WATER PRESSURE SWITCH	ÜBERDRUCKSCHALTER	PRESSOSTAT EAU
27	3821010	1	MANOMETRO 0-10 Dn 50 R 1/4" S/RADIAL	MANOMETER 0-10 D-50 R 1/4" HORIZONTAL	MANOMETER 0-10 D-50 R 1/4"	MANOMETRE 0-10 D-50 R 1/4" S/RADIAL

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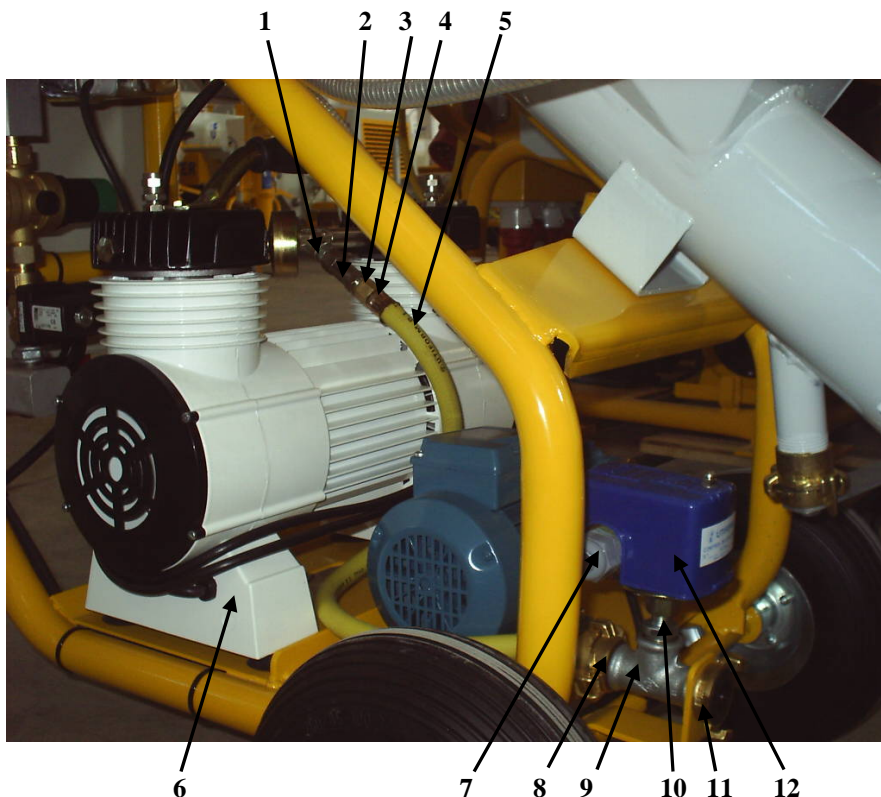
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12.3	SISTEMA DE AIRE	AIR SYSTEM	LUFTARMATUREN	SISTÈME AIR
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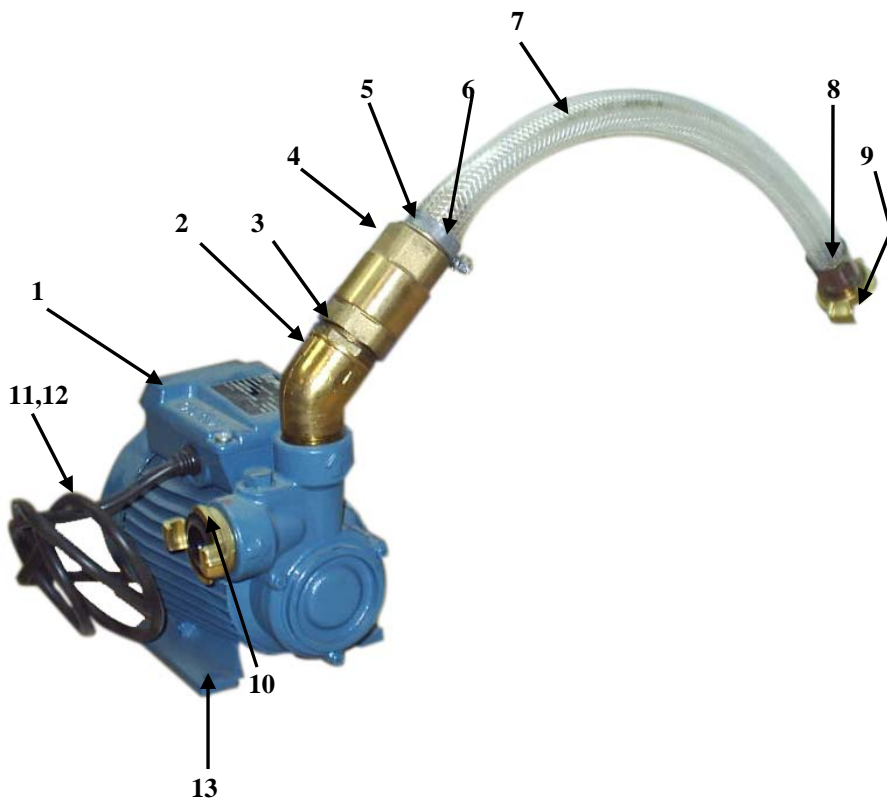
12.3	SISTEMA DE AIRE	AIR SYSTEM	LUFTARMATUREN	SISTÈME AIR
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N°	Ref.	Uds.	Descripción	Description	Bezeichnung	Désignation
1	32700	1	MACHON 1/4"	CONNECTING ROD 1/4"	REDUZIERSTÜCK 1/4"	PIEDROIT 1/4"
2	434091	1	VALVULA ANTIRETORNO 1/4"	VALVE NON-RETURN 1/4"	RÜCKSCHLAGVENTIL 1/4"	SOUPAPE ANTIRETOUR 1/4"
3	32006	1	OLIVETA 9 MM. ROSCA INT. 1/4"			
4	LPH-18	1	CASQUILLO 18 MM. P.MANG.	SOCKET 18 MM. FOR HOSE.	PRESSHÜLSE 18 MM FÜR SCHLAUCH	BAGUE 18 MM P/TUYAU
5	38000	0.6mts.	MANG. AIRE 3/8"-10x16 mm.	AIR HOSE 3/8"-10x16 mm.	LUFTSCHLAUCH 3/8"-10x16 mm	TUYAU AIR 3/8"-10x16 mm.
6	52426870	1	COMPRESOR 230 V. 50 Hz. (1 ph)	COMPRESOR 230 V. 50 Hz. (1 ph)	KOMPRESSOR 230 V. 50 Hz. (1ph)	COMPRESSEUR 230 V. 50 Hz. (1 ph)
7	41581	1	PRENSASTOPA PVC M20x1.5	PVC PACKING GLAND M20x1.5	STOPFBUCHSE PVC M20x1.5	PRESSE-ETOUPÉ PVC M20x1.5
8	77012	1	ACOPL. GEKA R. EXT. 1/2"	CUPPLING GEKA EXT. THREAD 1/2"	KUPPLUNG GEKA AUSSENGEWINDE 1/2"	RACCORD GEKA R. EXT. 1/2"
9	32402	1	TE 1/2"	T - SQUARE 1/2"	TE 1/2"	T-1/2
10	32707	1	MACHON REDUCIDO 1/2"-1/4"	CONNECTING ROD REDUCED 1/2"-1/4"	REDUZIERSTÜCK REDUZIERT 1/2"-1/4"	PIEDROIT REDUIT 1/2"-1/4"
11	77012	1	ACOPL. GEKA R. EXT. 1/2"	CUPPLING GEKA EXT. THREAD 1/2"	KUPPLUNG GEKA AUSSENGEWINDE 1/2"	RACCORD GEKA R. EXT. 1/2"
12	45054	1	PRESOSTATO AIRE 1 NC R 1/4"	PRESSURE SWITCH 1 NC R 1/4"	LUFTDRÜCKWÄCHTER 1 NC R 1/4"	PRESOSTATO AIR 1 NC R 1/4"

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12.4	BOMBA AGUA	WATER PUMP	WASSERPUMPE	POMPE EAU
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12.4	BOMBA AGUA	WATER PUMP	WASSERPUMPE	POMPE EAU
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Nº	Ref.	Uds.	Descripción	Description	Bezeichnung	Désignation
-	39957	1	BOMBA AGUA 230 V. PARO TOTAL COMPLETA	WATER PUMP 230 V. AUTOM. SHUT OFF SYSTEM COMPLET		POMPE EAU PERIFERIQUE 400 V.
1	45605070	1	BOMBA AGUA PERIFERICA 230 V.	230 V. WATER PUMP COMPLETE	PERIPHERISCHE WASSERPUMPE 230 V	
2	780103	1	CODO 45° R.INT.1" -R.EXT.1"	BEND 45° INT. THREAD 1" - EXT. THREAD		COUDE 45° R.INT.1"-R.EXT.1"
3	32704	1	MACHON 1" LATON	CONNECTING ROD 1" BRASS	REDUZIERSTUECK 1" MESSING	PILIER 1" LAITON
4	312106	1	VALVULA ANTIRETORNO 1"	VALVE NON-RETURN 1"		SOUPAPE ANTIRETOUR 1"
5	32003	1	OLIVETA 3/4" ESIPIGA R. EXT. 1"			OLIVETA 3/4" CHEVILLE R. EXT. 1"
6	78004	1	ABRAZADERA SINFIN 20-32			
7	38200		MANG. AGUA 3/4"-19x27 mm.	WATER HOSE 3/4" 19X27 MM		TUYAU EAU 3/4"-19x27 mm.
8	LPH-28	1	CASQUILLO 28 MM. P/MANG. AGUA	SOCKET 28 MM. FOR HOSE. AGUA		BAGUE 28 MM P/TUYAU EAU
9	77005	1	ACOPL. GEKA P/MANG. 3/4"	CUPPLING GEKA FOR HOSE 3/4"	KUPPLUNG GEKA F. SCHLAUCH 3/4"	RACCORD GEKA POUR TUYAU 3/4"
10	77011	1	ACOPL. GEKA R. EXT. 1"	CUPPLING GEKA EXT. THREAD 1"	KUPPLUNG GEKA AUSSENGEWINDE 1"	RACCORD GEKA R. EXT. 1"
11	36012	1	MANG. ELECTRICA 4x1	ELECTRIC CABLE 4x1	STROMKABEL 4x1	CABLE ELECTRIQUE 4x1
12	DZSCE015	1	PUNTA HUECA 1'5 mm			POINTE CREUSE 1'5 mm
13	41111		TORNILLO D933 M8x25	SCHRAUBE D933 M8X25	VIS D933 M8x25	VIS D933 M8x25
	41702		ARANDELA D125A M8	WASHER D-125A M8		RONDELLE D-125A M8
	41211		TUERCA AUTOBLOCANTE M8	SELF-BLOCKING SCREW D985 M8	MUTTER SELBSTHEMMEND DIN 985 M8	ECROU AUTOBLOQUANT D985 M8
-	39953	1	BOMBA AGUA 230 V. PARO TOTAL COMPLETA	WATER PUMP 230 V. AUTOM. SHUT OFF SYSTEM COMPLET		POMPE EAU PERIFERIQUE 400 V.
1	525301	1	BOMBA AGUA 230 V. 50 Hz.	WATER PUMP 230 V.		POMPE EAU 230 V.
2	780103	1	CODO 45° R.INT.1" -R.EXT.1"	BEND 45° INT. THREAD 1" - EXT. THREAD		COUDE 45° R.INT.1"-R.EXT.1"
3	32704	1	MACHON 1" LATON	CONNECTING ROD 1" BRASS	REDUZIERSTUECK 1" MESSING	PILIER 1" LAITON
4	312106	1	VALVULA ANTIRETORNO 1"	VALVE NON-RETURN 1"		SOUPAPE ANTIRETOUR 1"
5	32003	1	OLIVETA 3/4" ESIPIGA R. EXT. 1"			OLIVETA 3/4" CHEVILLE R. EXT. 1"
6	78004	1	ABRAZADERA SINFIN 20-32			
7	38200		MANG. AGUA 3/4"-19x27 mm.	WATER HOSE 3/4" 19X27 MM		TUYAU EAU 3/4"-19x27 mm.
8	LPH-28	1	CASQUILLO 28 MM. P/MANG. AGUA	SOCKET 28 MM. FOR HOSE. AGUA		BAGUE 28 MM P/TUYAU EAU
9	77005	1	ACOPL. GEKA P/MANG. 3/4"	CUPPLING GEKA FOR HOSE 3/4"	KUPPLUNG GEKA F. SCHLAUCH 3/4"	RACCORD GEKA POUR TUYAU 3/4"
10	77011	1	ACOPL. GEKA R. EXT. 1"	CUPPLING GEKA EXT. THREAD 1"	KUPPLUNG GEKA AUSSENGEWINDE 1"	RACCORD GEKA R. EXT. 1"
11	36012	1	MANG. ELECTRICA 4x1	ELECTRIC CABLE 4x1	STROMKABEL 4x1	CABLE ELECTRIQUE 4x1
12	DZSCE015	1	PUNTA HUECA 1'5 mm			POINTE CREUSE 1'5 mm
13	41111		TORNILLO D933 M8x25	SCHRAUBE D933 M8X25	VIS D933 M8x25	VIS D933 M8x25
	41702		ARANDELA D125A M8	WASHER D-125A M8		RONDELLE D-125A M8
	41211		TUERCA AUTOBLOCANTE M8	SELF-BLOCKING SCREW D985 M8	MUTTER SELBSTHEMMEND DIN 985 M8	ECROU AUTOBLOQUANT D985 M8

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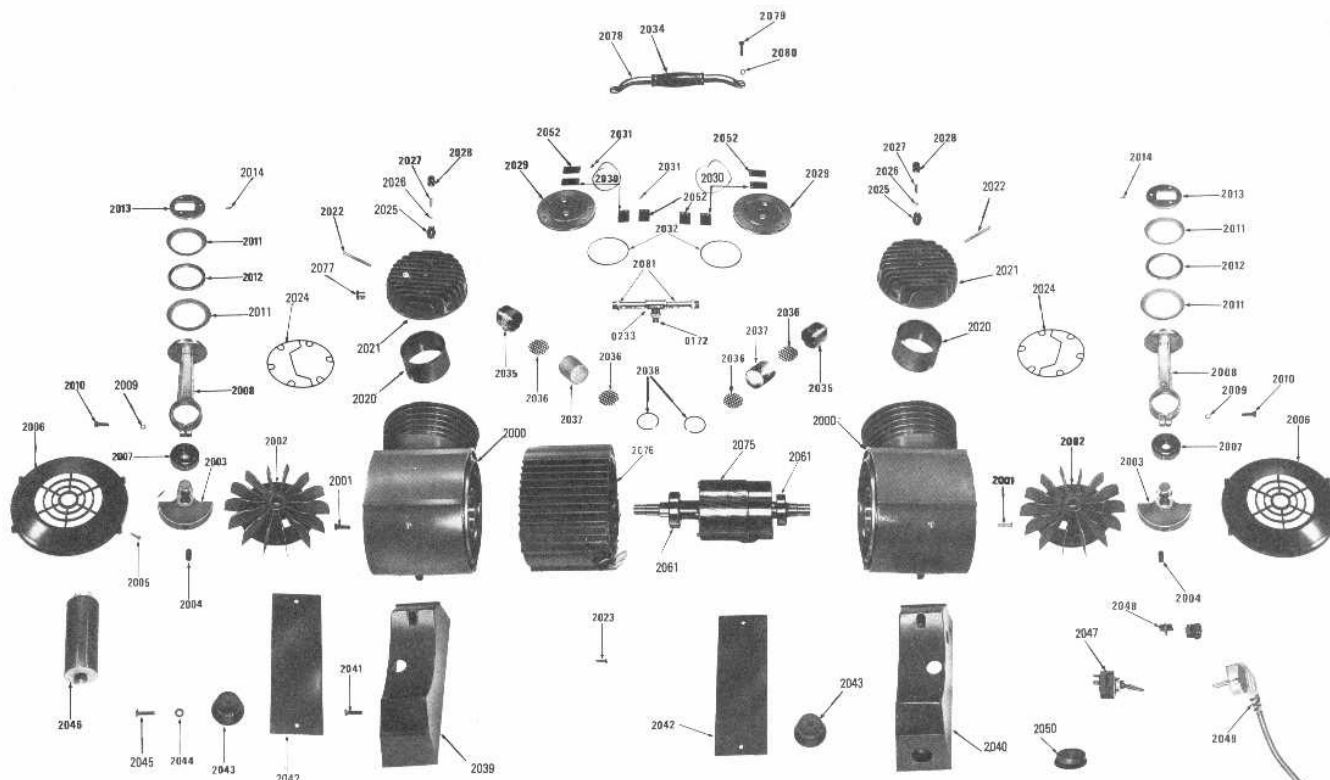
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12.5	COMPRESOR DELTA 75	COMPRESSOR DELTA 75	KOMPRESSOR DELTA 75	COMPRESSEUR
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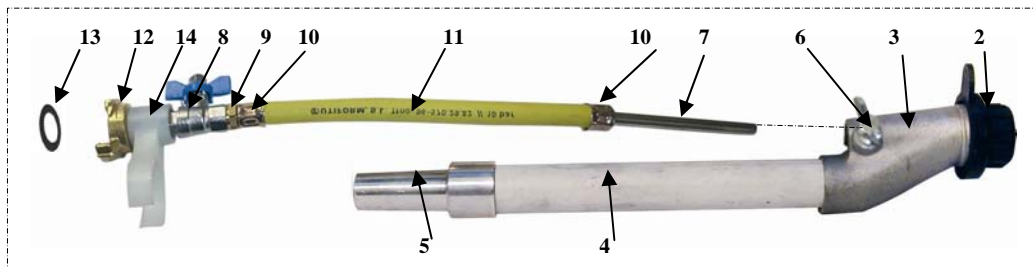
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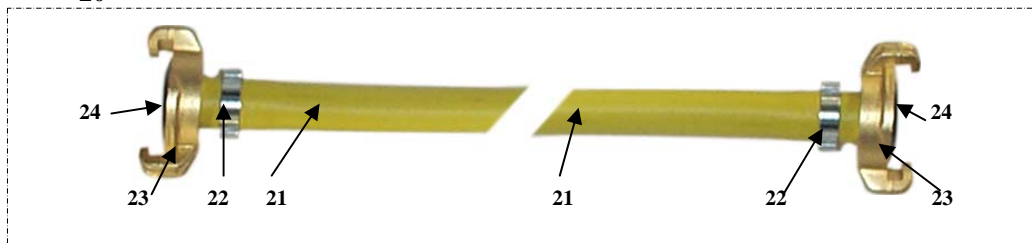
Enfoscadora MINI

12.6	LANZA DE PROYECCIÓN RECTA Y MANGUERAS	STRAIGHT SPRAYING GUN AND HOSES	SPRITZGERÄT GERADE UND SCHLÄUCHE	LANCE DE PROJECTION DROITE TUYAUX.
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12.6	LANZA DE PROYECCIÓN RECTA Y MANGUERAS		STRAIGHT SPRAYING GUN AND HOSES		SPRITZGERÄT GERADE UND SCHLÄUCHE		LANCE DE PROJECTION DROITE TUYAUX	
Nº	Ref.	Uds.	Descripción	Description	Bezeichnung	Désignation		
1-	39800	1	LANZA PROVEC. RECTA 25 P/BOQ. PM - TUBO 25 cm	STRAIGHT SPRAYING GUN 25 F/NOZZLE PM. - TUBE 25 Cm	SPRITZGERÄT GERADE 25 CM MIT ANSCHLUSS PM	LANCE PROJECT. DROITE 25 P/EMBOUT PM. - TUBE 25 Cm		
-	39512	1	SISTEMA MORETERO P/LANZA DE PROVEC.	MORTAR SYSTEM FOR STRAIGHT SPRAY GUN PVC	MÖRTELSPRITZYPISTOLE GERADE PVC	SYSTEME MORTIER LANCE DROITE PVC		
2	91004	1	BOQUILLA DE GOMA	RUBBER NOZZLE 14 MM.	SPRITZDÜSE 14 MM	EMBOUT CAOUTCHOUC 14 MM.		
3	45002	1	CABEZA DE LANZA RECTA 25 mm.	SPRAY GUN HEAD 25 MM. FOR PM NOZZLE	ENDSTÜCK SPRITZGERÄT GERADE 25 MM	TÊTE LANCE 25 mm. P/EMBOUT PM.		
4	39504	0.25 mts	TUBO P.V.C. P/LANZA -25 cm	PVC TUBE FOR SPRAY GUN 25 CM	SPRITZGERÄT PVC ROHR 25 CM	TUBE P.V.C. P/LANCE -25 CM-		
5*	45023	1	CONO LANZA 25 mm. R. INT. 1"	ALUMINIUM CONE FOR SPRAY GUN 25 mm. INT. THREAD	KEGEL SPRITZGERÄT 25 MM INNENGEW. 1"	CÔNE LANCE 25 mm. R. INT. 1"		
	77017		ACOPL. GEKA R. INT. 1"	COUPLING GEKA INT. THREAD 1"	KUPPLUNG GEKA INNENGEWINDE 1"	RACCORD GEKA R. INT. 1"		
6	41134	1	TORNILLO MARIPOSA M10x16	SCREW BUTTERFLY M10x16	FLÜGELMUTTER M10x16	ECROU PAPILLON M10x16		
-	39500	1	SISTEMA AIRE P/LANZA RECTA 25 cm.	AIR SYSTEM FOR STRAIGHT SPRAY GUN 25 cm.	LUFTSYSTEM FÜR SPRITZGERÄT 25 cm.	SYSTEME AIR P/LANCE DROITE 25 cm.		
7	39506	1	TUBO AIRE INOX P/LANZA	INOX AIR TUBE FOR SPRAY GUN	INOX LUFTROHR FÜR SPRITZGERÄT	TUBE AIR INOX P/LANCE		
8	303603	1	VALVULA ESFERA 3/8" M-H	VALVE BALL 3/8" M-F	KUGELVENTIL 3/8" M-V	SOUPAPE SPHERIQUE 3/8" M-H		
9	32004	1	OLIVETA 9 MM. R. EXT. 3/8"	MALE THREAD STEM BRASS 9MM. EXT. 3/8"	SCHLAUCHTÜLLE A. GEW. 3/8"	OLIVETA 9 MM. CHEVILLE R. EXT. 3/8"		
10	LPH-18	2	CASQUILLO 18 mm. P/MANG.	SOCKET 18 MM. FOR HOSE.	PRESSHÜLSE 18 MM FÜR SCHLAUCH	BAGUE 18 mm P/TUYAU		
11	38000	0.27 mts.	MANG. AIRE 3/8"-10x16 mm.	AIR HOSE 3/8"-10x16 mm.	LUFTSCHLAUCH 3/8"-10x16 mm	TUYAU AIR 3/8"-10x16 mm.		
12	77015	1	ACOPL. GEKA R. EXT. 3/8"	COUPLING GEKA EXT. THREAD 3/8"	KUPPLUNG GEKA AUSSENGEWINDE 3/8"	RACCORD GEKA R. EXT. 3/8"		
13	77023	1	JUNTA ACOPL. GEKA	GEKA GASKET	DICHTRING KUPPL. GEKA	JOINT RACCORD GEKA		
14	522124001	1	FIJACION SIST. AIRE A LANZA	FASTENING FOR SPRAY GUN AIR SYSTEM	BEFESTIGUNG FÜR LUFTZUFUHR FÜR SPRITZGERÄT	ACCESSOIRE LANCE-TUYAU MORTIER		
20	38002	10 mts.	MANG. AIRE 3/8" (10 MTS) C/ACOPL.	AIR HOSE 3/8" (10 MTS) WITH COUPLING	LUFTSCHLAUCH 3/8" (10 M) MIT KUPPLUNG	TUYAU AIR 3/8" (10 MTS) AVEC RACCORD		
	38003	15 mts.	MANG. AIRE 3/8" (15 MTS) C/ACOPL.	AIR HOSE 3/8" (15 MTS) WITH COUPLING	LUFTSCHLAUCH 3/8" (15 M) MIT KUPPLUNG	TUYAU AIR 3/8" (15 MTS) AVEC RACCORD		
21	38000	1 mts.	MANG. AIRE 3/8"-10x16 mm.	AIR HOSE 3/8"-10x16 mm.	LUFTSCHLAUCH 3/8"-10x16 mm	TUYAU AIR 3/8"-10x16 mm.		
22	78000	2	ABRAZADERA 2 OREJAS 15-18 PELLIZCO	BRACKET 2 EARS 15-18	SPANNSCHELLE	COLLIER DE SERRAGE 15/18 PAPILLON		
23	77007	2	ACOPL. GEKA P/MANG. 3/8"	COUPLING GEKA FOR HOSE 3/8"	KUPPLUNG GEKA F. SCHLAUCH 3/8"	RACCORD GEKA POUR TUYAU 3/8"		
24	77023	2	JUNTA ACOPL. GEKA	GEKA GASKET	DICHTRING KUPPL. GEKA	JOINT RACCORD GEKA		
30	38102	10 mts.	MANG. MORTERO 25 mm. (10 MTS) C/ACOPL.	MORTAR HOSE 25 mm. (10 MTS) SINGLE COUPLING	MÖRTELSCHLAUCH 25 mm (10 M) MIT KUPPL. A/RACCORD	TUYAU MORTIER 25 mm. (10 MTS) A/RACCORD		
	38103	15 mts.	MANG. MORTERO 25 mm. (15 MTS) C/ACOPL.	MORTAR HOSE 25 mm. (15 MTS) SINGLE COUPLING	MÖRTELSCHLAUCH 25 mm (15 M) MIT KUPPL. A/RACCORD	TUYAU MORTIER 25 mm. (15 MTS) A/RACCORD		
31	38100	1 mts.	MANG. MORTERO 25x39 mm. 40 BAR.	MORTAR HOSE 25x37 mm. 40 BAR.	MÖRTELSCHLAUCH 25x37 mm 40 BAR	TUYAU MORTIER 25x37 mm. 40 BAR.		
32	78010	1	ABRAZADERA SUPRA 37-40	CONEXION 37-40	SPANNSCHELLE 37-40	BRIDE 37-40		
33	76000	1	ACOPL. SKK M 25 ESPIGA 25 mm. - UTI	COUPLING SKK M 25 25 mm. - UTI	KUPPLUNG SKK M 25 SCHLAUCHTÜLLE 25 mm - UTI	RACCORD SKK M 25 CHEVILLE 25 mm. - UTI		
34	76024	1	JUNTA ACOPL. SKK M DN. 24	CAMLOCK GASKET SKK M DN. 24	DICHTRING SKK M DN 24	JOINT RACCORD SKK M DN. 24		
35	76008	1	ACOPL. SKK V 25 ESPIGA 25 mm.	COUPLING SKK V 25 25 mm.	KUPPLUNG SKK V 25 TÜLLE 25 MM	RACCORD SKK V 25 CHEVILLE 25 mm.		

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-	38201	1	MANG. AGUA ABSORC.-5 MTS- C/VALV.			
-	38200	5 mts.	MANG. AGUA 3/4"-19x27 mm.	WATER HOSE 3/4" 19X27 MM	WASSERSCHLAUCH 3/4" 19X27 MM	TUYAU EAU 3/4"-19x27 mm.
-	32001	1	OLIVETA 3/4" ESPIGA R. EXT. 3/4"	MALE THREAD STEM BRASS G 3/4"	TÜLLE 3/4" DORN I. GEW. 3/4"	OLIVETA 3/4" CHEVILLE R. EXT. 3/4"
-	LPH-28	2	CASQUILLO 28 MM. P/MANG. AGUA			
-	314005	1	VALVULA ABSORC. YORK 3/4"	VALVE ABSORP. YORK 3/4"	SAUGREGELVENTIL YORK 3/4"	SOUPAPE ABSORPT. YORK 3/4"
-	77005	1	ACOPL. GEKA P/MANG. 3/4"	COUPLING GEKA FOR HOSE 3/4"	KUPPLUNG GEKA F. SCHLAUCH 3/4"	RACCORD GEKA POUR TUYAU 3/4"
-	36000	25 mts.	MANG. ELECT. 5x2'5 (25 MTS) C/BASE	ELECTRIC CABLE 5x2'5 (25 MTS) WITH PLUG	STROMKABEL 5x2'5 (25 M) MIT STECKER	CABLE ELECT. 5x2'5 (25 MTS) A/BASE
-	36001	50 mts.	MANG. ELECT. 5x2'5 (50 MTS) C/BASE	ELECTRIC CABLE 5x2'5 (50 MTS) WITH PLUG	STROMKABEL 5x2'5 (50 M) MIT STECKER	CABLE ELECT. 5x2'5 (50 MTS) A/BASE
-	36007	1 mts.	MANG. ELECTRICA 5x2'5	ELECTRIC CABLE 5x2'5	STROMKABEL 5x2'5	CABLE ELECTRIQUE 5x2'5
-	37502	1	BASE AEREA 32 A. 3P+N+T/6h.	SOCKET 32 A. 3P+N+T/6h.	32 A DOSE 3P+N+T/6h	SOCLE AERIEN 32 A. 3P+N+T/6h.

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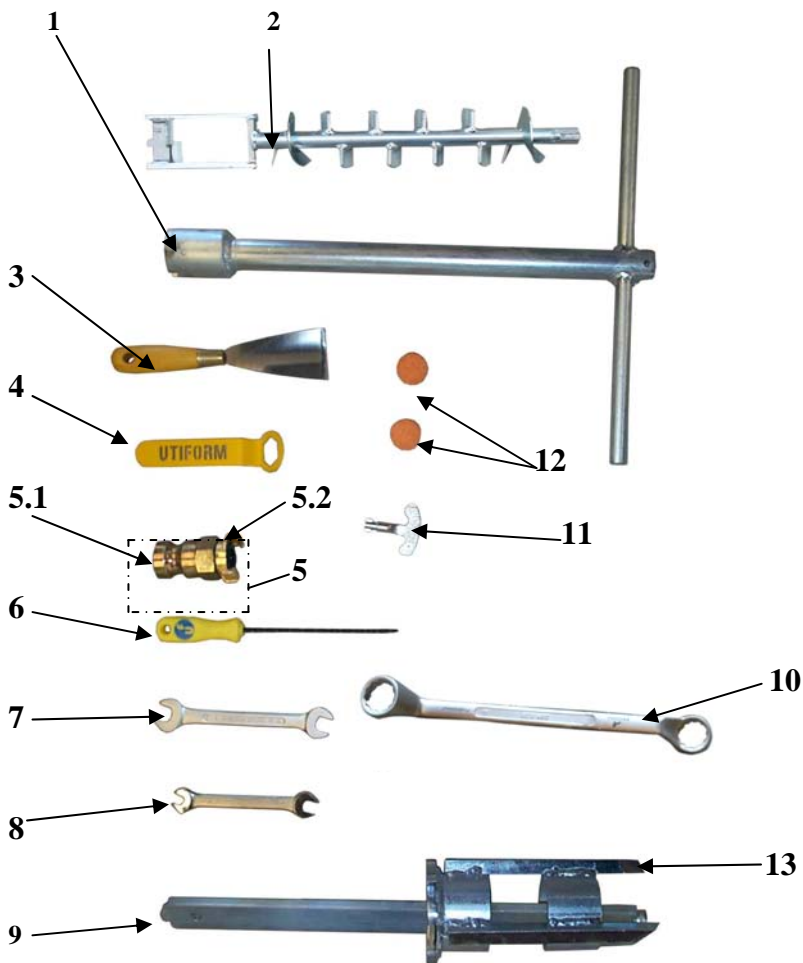
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Enfoscadora MINI

12.7	ACCESORIOS	FITTINGS	ZUBEHÖR	ACCESSOIRES
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Enfoscadora MINI

12.7	ACCESORIOS	FITTINGS	ZUBEHÖR	ACCESSOIRES
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N°	Ref.	Uds.	Descripción	Description	Bezeichnung	Désignation
1	74150	1	VOLVEDOR CAMISA DELTA MIX / MASTER / MINI	T SQUARE BAR FOR STATOR DELTA MIX, MASTER, MINI	MONTAGESCHLÜSSEL FÜR STATOR DELTA MIX / MASTER / MINI	BARRE "T" JAQUETTE DELTA MIX / MASTER / MINI
2	73001	1	BATIDOR DELTA-MINI STANDARD	MIXING SHAFT DELTA-MINI STANDARD	MISCHSTANGE DELTA-MINI STANDART	BATTEUR DELTA-MINI STANDARD
3	96010	1	ESPATULA CURVA LIMPIEZA TUBO 180 MM.	CURVED CLEANING PALETTE KNIFE	REINIGUNGSSPACHTEL F. ROHR 180 MM	SPATULE COURBÉE DE NETTOYAGE TUBE 180 MM
4	45040	1	LLAVE REGULADOR PRESION	REY REGULATION PRESSURE	SCHLÜSSEL ZUR DRUCKREGÜLIERUNG	CLÉ RÉGULATEUR PRESSION
5	39514	1	ACOPL. AGUA LIMPIEZA MASTER	CUPPLING AGUA LIMPIEZA MASTER	KUPPLUNG WASSER REINIGUNG MASTER	RACCORD EAU NETTOYAGE MASTER
5.1	77011	1	ACOPL. GEKA R. EXT. 1"	CUPPLING GEKA EXT. THREAD 1"	KUPPLUNG GEKA AUSSENGEWINDE 1"	RACCORD GEKA R. EXT. 1"
5.2	76009	1	ACOPL. SKK V 25 R. INT. 1"	CUPPLING SKK V 25 INT. THREAD 1"	KUPPLUNG SKK V 25 INNENGWINDE 1"	RACCORD SKK V 25 R. INT. 1"
6	4233703	1	PIQUERA 270 MM.	270 MM. NOTCHER	REINIGUNGSFEILE 270 MM	PIC DE NETTOYAGE 270 MM
7	41807	1	LLAVE FIJA 16-17	WRENCH 16-17	MAULSCHLÜSSEL 16-17	CLÉ FIXE 16-17
8	41806	1	LLAVE FIJA 12-13	WRECH 12-13	MAULSCHLÜSSEL 12-13	CLÉ FIXE 12-13
9	74002	1	BARRA LIMPIEZA ESPECIAL MINI	CLEANING TOOL	REINIGUNGSWERKZEUG	BARRE NETTOYAGE
10	3250700	1	LLAVE ESTRELLA 24-27 MM	24-27 MM. STAR KEY	RINGSCHLÜSSEL 24-27 MM	CLÉ ÉTOILE 24-27 MM
11	45049	1	LLAVE CERRADURA METALICA	METALLICK LOCK KEY	SCHLOSSSCHLÜSSEL AUS METALL	CLÉ SERRURE METALLIQUE
12	3500135	2	BOLA CAUCHO 35 MM.	CLEANING BALL 35 MM.	REINIGUNGSBALL 35 MM	BALLE CAOUTCHOUC 35 MM.
13	74100	1	RASCADOR LIMPIEZA MASTER	CLEANING TOOL MASTER	REINIGUNGSSCHÖBER MASTER	GRATTOIR NETTOYAGE MASTER

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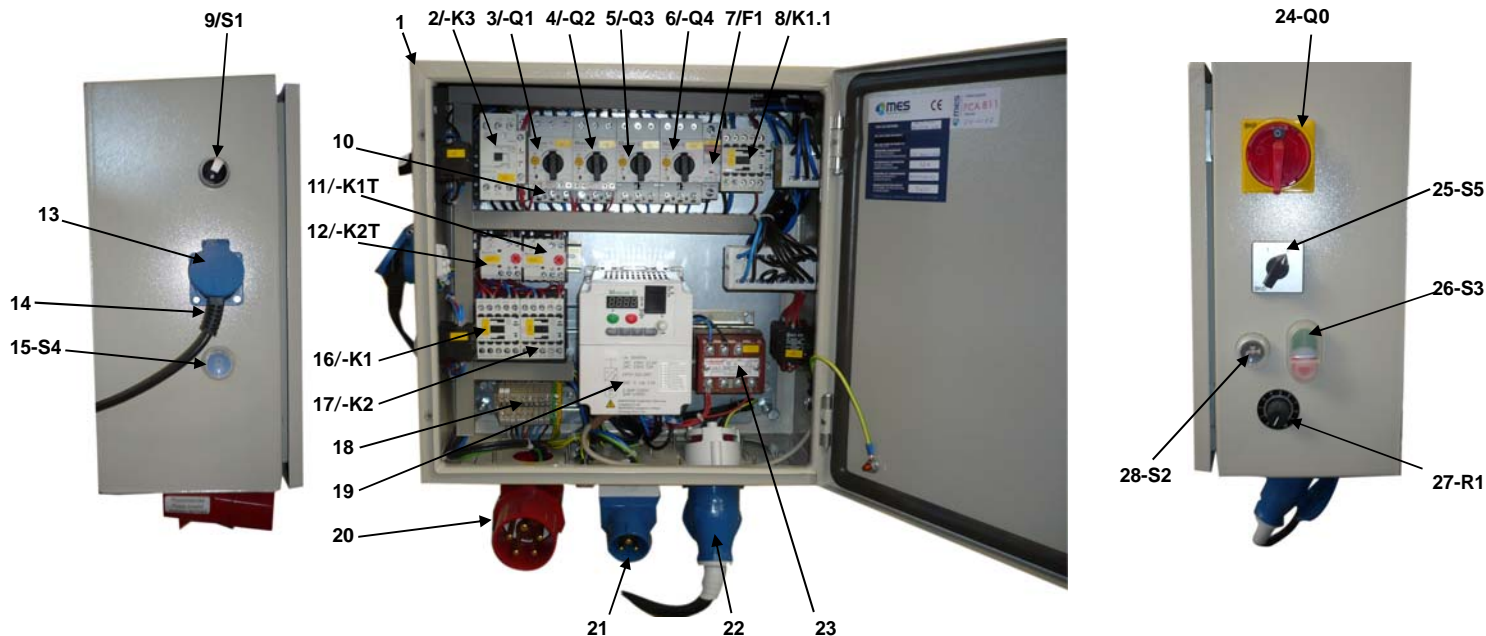
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12.8	CUADRO ELÉCTRICO	CIRCUIT BOARD	SCHALTKASTEN	TABLEAU ELECTRIQUE
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12.8	CUADRO ELÉCTRICO	CIRCUIT BOARD	SCHALTKASTEN	TABLEAU ELECTRIQUE
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Nº	Ref.	Uds.	Descripción	Description	Bezeichnung	Désignation
1	S/Ref	1	ARMARIO ELECTRICO 400x400x200			
2/K3	277120	1	CONTACTOR POTENCIA DIL M25-10			
3/Q1	046938	1	PROTECTOR MOTOR PKZM0-16	ENGINE GUARD PKZM0-16	MOTORSICHERUNG PKZM0-16	PROTECTEUR MOTEUR PKZM0-16
4/Q2	072739	1	PROTECTOR MOTOR PKZM0-10	ENGINE PROTECTOR PKZM0-10	MOTORSICHERUNG PKZM0-10	PROTECTEUR MOTEUR PKZM0-10
5/Q3	072738	1	PROTECTOR MOTOR PKZM0-6'3	ENGINE PROTECTOR PKZM0-6'3	MOTORSICHERUNG PKZM0-6'3	PROTECTEUR MOTEUR PKZM0-6'3
6/Q4	072737	1	PROTECTOR MOTOR PKZM0-4	ENGINE PROTECTOR PKZM0-4	MOTORSICHERUNG PKZM0-4	PROTECTEUR MOTEUR PKZM0-4
7/F1	044735	1	PROTECTOR TERMICO MONOF. PLS6-C2	ONE-PHASE THERMIC GUARD PLS6-C2	EINPHASIGE THERMO-SICHERUNG PLS6-C2	PROTECTEUR THERMIQUE MONOPHASIQUE FAZN-S2
8/K1.1	276573	1	MINI CONTACTOR 48V 01 DILM7-01			
9/S1	216867	1	SELECTOR 2 POSICIONES M22-WRK	2 POSITIONS BUTTON M22-WRK	SELEKTOR 2 STUFEN M22 - WRK	BOUTON 2 POSITIONS M22-WRK
	216505	1	BLOQUE CONTACTOS M22-AK11	CONTACT BLOCK M22-AK11	SCHALTER M22-AK11	BLOC CONTACTS M22-AK11
10	082882	1	CONTACTO AUX. EMP. NHL-E-11-PKZ0	CONTACT AUX. EMP. NHL-E-11-PKZ0	HILFSSCHALTERBAUTEIL NHL-E-11-PKZ0	CONTACT AUX. EMP. NHL-E-11-PKZ0
11/-K1T	031882	1	CONTACTOR TEMPORIZADOR	WATER AND COMPRESSOR RELAY	RELAISSCHALTER TIMER	CONTACTEUR MINUTEUR
12/-K2T	031882	1	CONTACTOR TEMPORIZADOR	WATER AND COMPRESSOR RELAY	RELAISSCHALTER TIMER	CONTACTEUR MINUTEUR
13	37504	1	BASE EMPOTRAR 220 V. SCHUKO	SOCKET BUIT IN 220 V. SCHUKO	EINGELASSENE STECKDOSE 220 V SCHUCKO	SOCLE A SCELLER 220 V. SCHUKO
14	37004	1	CLAVIJA 220 V SCHUKO	PLUG 220 V SCHUKO		FICHE 220 V SCHUKO
15/S4	022293	1	ELEMENTO FIJ. BE3 P/CONTACTO EK	FIXING ELEMENT BE3 FOR CONTACT EK		ELEMENT FIXATION BE3 P/CONTACT EK
	031785	2	CONTACTO EK 01			CONTACT EK 01
	036531	1	CONTACTO EK10P PULS. RESET	CONTACT EK10P PULS. RESET		CONTACT EK10P PULS. RESET
	216604	1	PULSADOR RASANTE M22-XD-S-X16 C/INDICADOR 0	PUSH-BOTTON M22-XD-S-X16	DRUCKKNOPF FLACH M22-XD-S-XD16	BOUTON POUSSOIR M22-XD-S-X16
	053848	1	DISCO INDICADOR 286 T RESET	INDICATION DISC 286 T RESET		DISQUE INDICATEUR 286 T RESET
	216395	1	MEMBRANA M22-T-D PULSADOR PLANO	MEMBRANE M22-T-D FLAT BUTTON	MEMBRAN M22-T-D DRUCKSCHALTER FLACH	MEMBRANE M22-T-D BOUTON POUSSOIR PLAT
16/-K1	276352	1	CONTACTOR AUX. 48 V 31 DILA-31			
17/-K2	276573	1	MINI CONTACTOR 48V 01 DILM7-01			
18	AB1VV435U	1	BORNA CONEXION 4 mm2 (MARFIL)	CONNECTION OF BUSHING 4MM2 (IVORY)	ANSCHLUSS 4 MM2 (ELFENBEINFARBIG)	BORNE CONNEXION 4 mm2 (MARFIL)
19	*	1	VARIADOR DE VELOCIDAD	VARIABLES SPEED DRIVES	FREQUENZUMRICHTER	VARIATEURS DE VITESSE
20	37508	1	BASE ENTRADA 32 A. 3P+N+T/6h C/INVERSOR	SOCKET ENTRY 32 A. 3P+N+T/6h C/INVERSOR		SOCLE ENTREE 32 A. 3P+N+T/6h AVEC INVERSEUR
21	37003	1	CLAVIJA SUPERFICIE 16 A. 2P+T/6h	PLUG SURFACE 16 A. 2P+T/6h		PRISE EXTERIEURE 16 A. 2P+T/6h

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22	37516	1	BASE EMPOTRAR 16 A. 7P/9h.	SOCKET BUIT IN 16 A. 7P/9h.		SOCLE A SCELLER 16 A. 7P/9h.
	37008	1	CLAVIA AEREA 16 A. 7P/9h. 230 V.	PLUG 16 A. 7P/9h. REF.741		FICHE 16 A. 7P/9h. REF.741
23-/T1	41559	1	TRAFO 380-220 A 48-24 63 VA.	TRANSFO 380-220 A 48-24 63 VA.	TRAFO 380-220 A 48-24 63 V	TRANSFO. 380-220 A 48-24 63 VA.
24-Q0	IN3031	1	INTERR. PPAL. TRIPOLAR P1-32/E+SVB(079065+057892)	MAIN THREE-PHASE SWITCH P1-32/E+SVB(079065+057892)	DREIPOLIGER UMSCHALTER P1-32/E+SVB	INTERR. PPAL. TRIPOLAIRE P1-32/E+SVB(079065+057892)
25-S5	064950	1	INTERR. 220-380 V. TO-8-8372/E	SWITCH 220-380 V. TO-8-8372/E		INTERR. 220-380 V. TO-8-8372/E
26-S3	216505	1	BLOQUE CONTACTOS M22-AK11	CONTACT BLOCK M22-AK11	SCHALTER M22-AK11	BLOC CONTACTS M22-AK11
	216700	1	PULSADOR DOBLE M22-DDL-GR-X1/X0	DOUBLE PUSH-BUTTON M22-DDL-GR-X1/X0	DOPPELTASTER M22-DDL-GR-X1/X0	BOUTON POUSSOIR DOUBLE M22-DDL-GR-X1/X0
	216396	1	MEMBRANA M22-T-DD PULSADOR DOBLE	FILM M22-T-DD DOUBLE PUSH-BUTTON	MEMBRAN M22-T-DD DOPPELTASTER	MEMBRANE M22-T-DD BOUTON POUSSOIR DOUBLE
27-R1	360100	1	POTENCIOMETRO (1K)+PLACA+BOTON			POTENTIOMETRE (1K)+PLAQUE+BOUTON
28-S2	216504	1	BLOQUE CONTACTOS M22-AK10	CONTACT BLOCK M22-AK10	SCHALTER M22-AK10	BLOC CONTACTS M22-AK10
	216604	1	PULSADOR RASANTE M22-XD-S-X16 C/INDICADOR 0	PUSH-BOTTON M22-XD-S-X16	DRUCKKNOPF FLACH M22-XD-S-XD16	BOUTON POUSSOIR M22-XD-S-X16
	216395	1	MEMBRANA M22-T-D PULSADOR PLANO	MEMBRANE M22-T-D FLAT BUTTON	MEMBRAN M22-T-D DRUCKSCHALTER FLACH	MEMBRANE M22-T-D BOUTON POUSSOIR PLAT

* Consultar con Utiform.

* Consulter avec Utiform

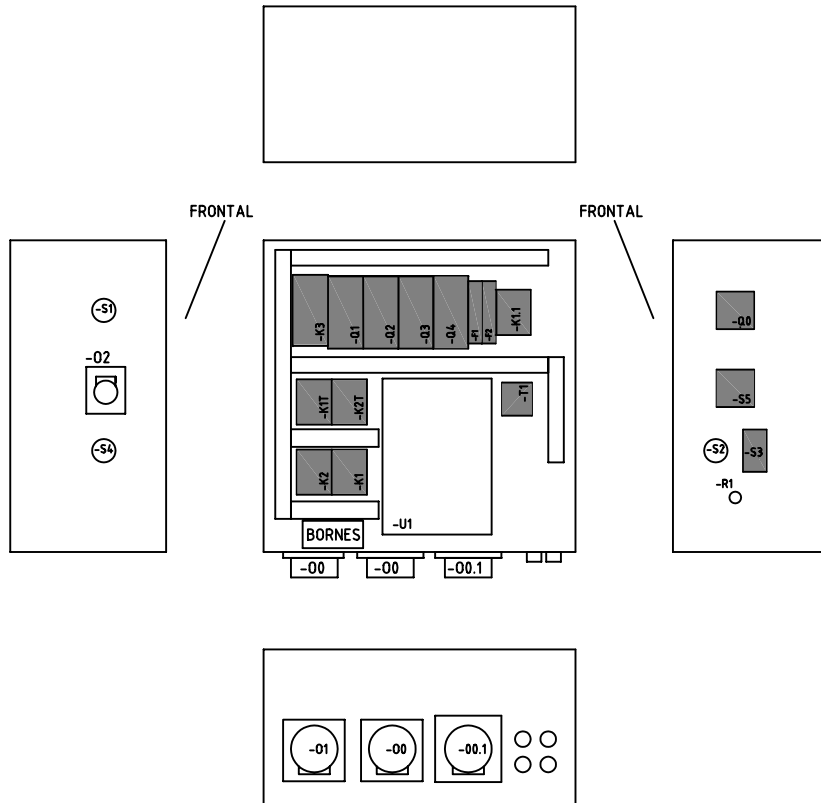
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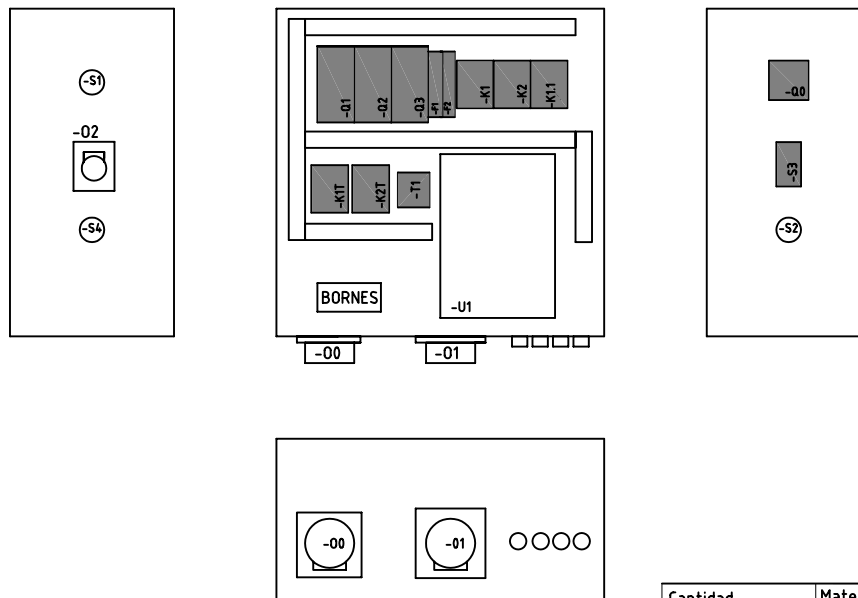
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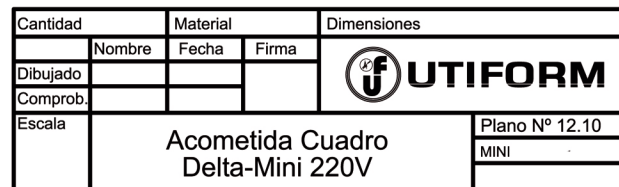
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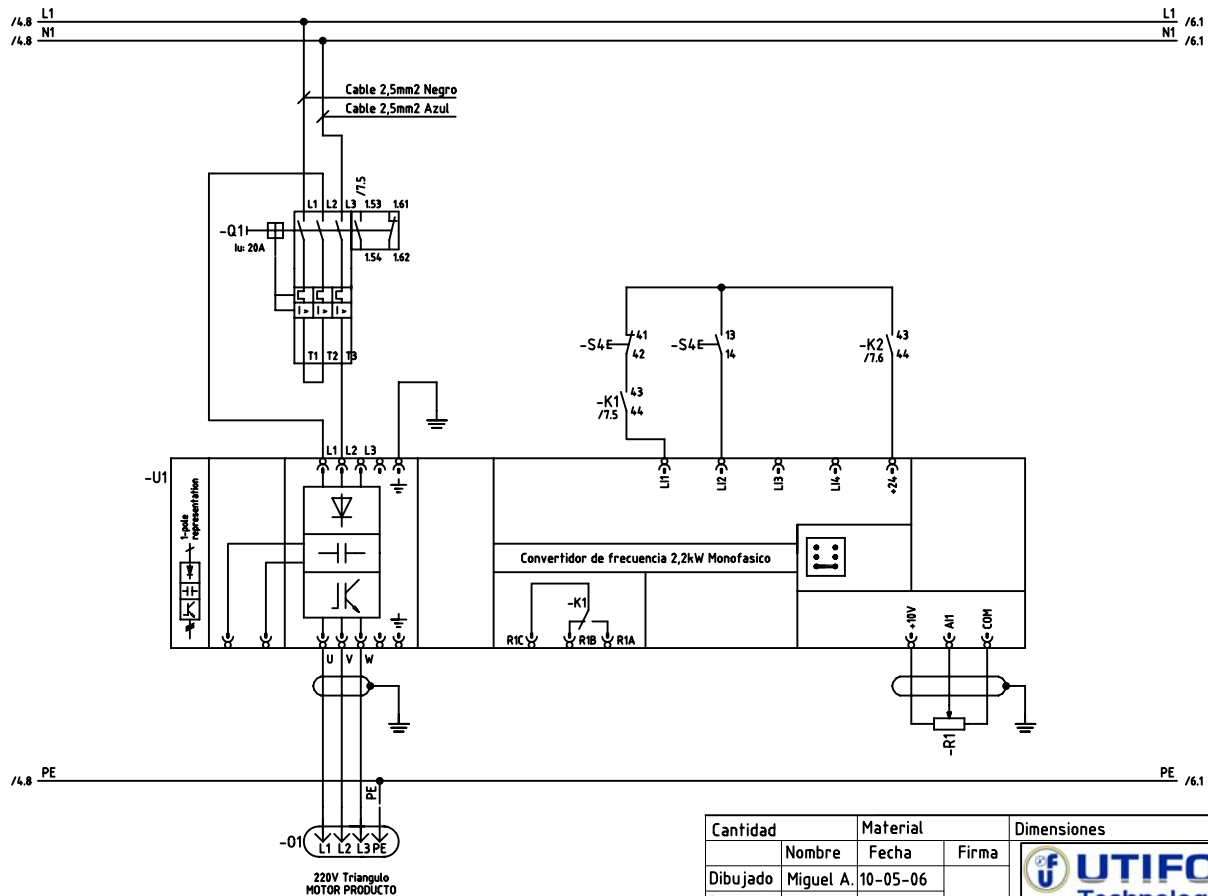


Cantidad		Material		Dimensiones	
	Nombre	Fecha	Firma		
Dibujado	Miguel A,	10-05-06			
Comprob.					
Escala	DISTRIBUCION CUADRO MINI 220-380 V			Plano Nº	
				9-A	
				DELTA-MINI	

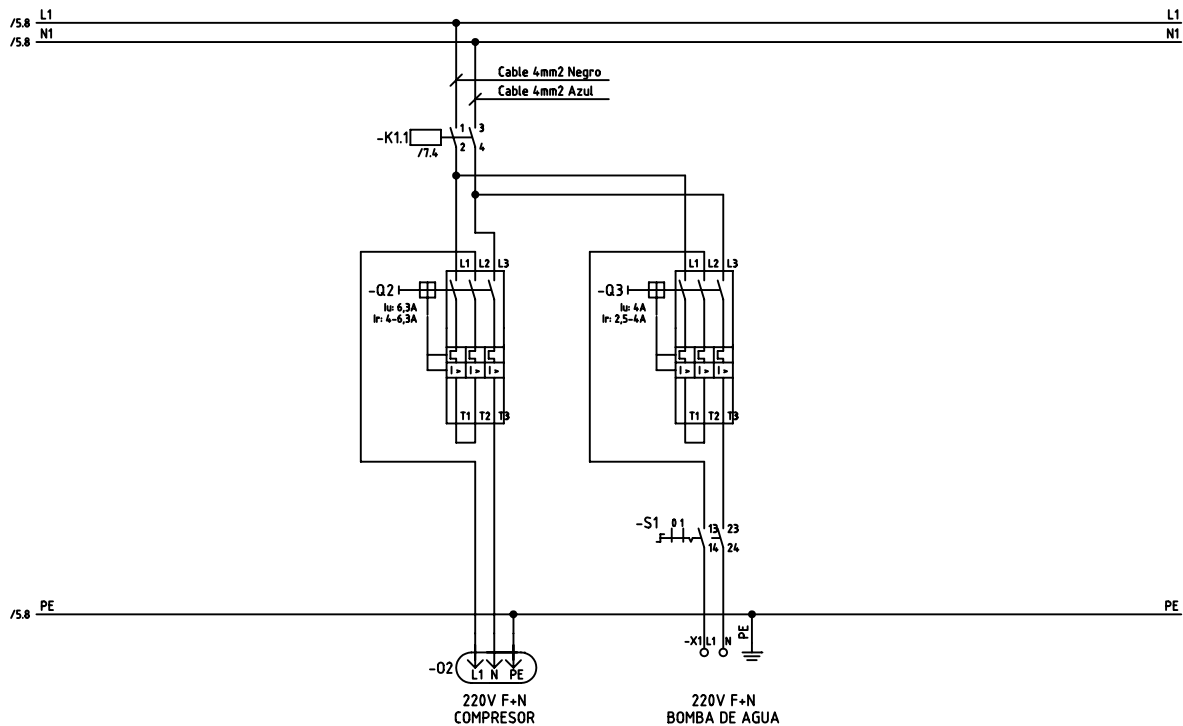


Cantidad		Material		Dimensiones	
	Nombre	Fecha	Firma		
Dibujado	Miguel A.	10-05-06			
Comprob.					
Escala	DISTRIBUCION CUADRO MINI 220 V				Plano Nº
					9-B
					DELTA-MINI



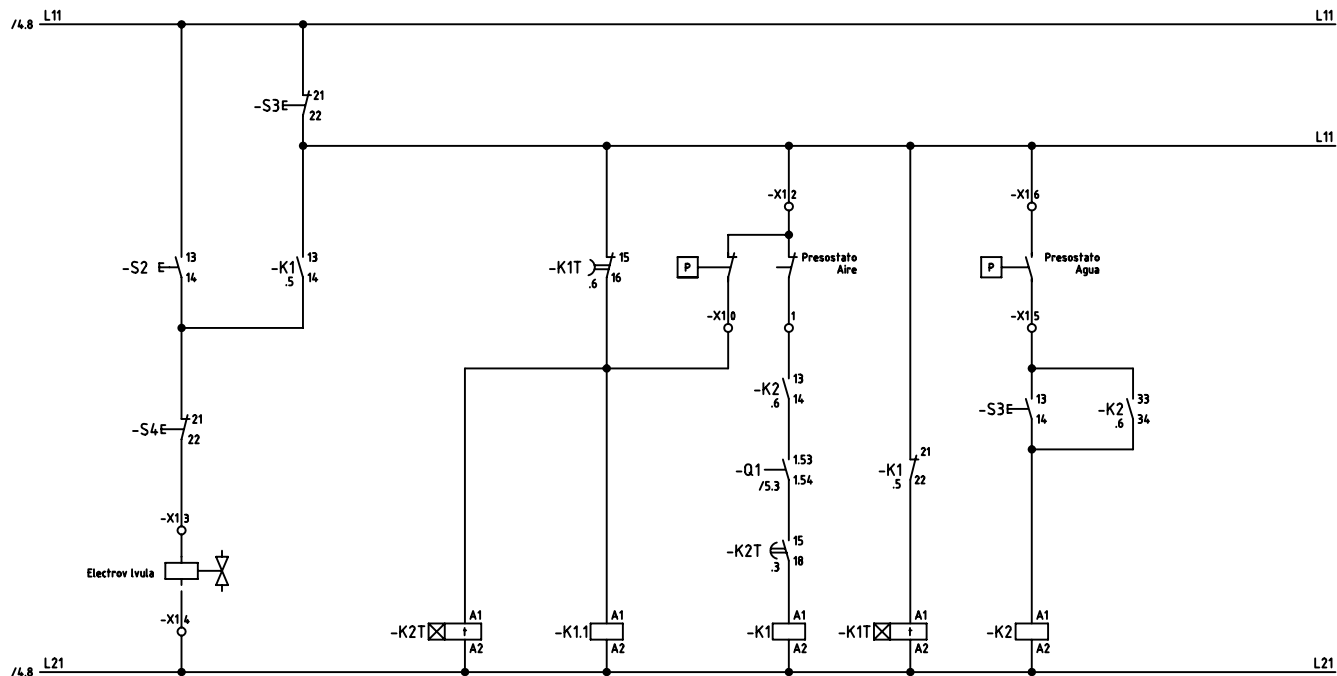


Cantidad		Material		Dimensiones	
	Nombre	Fecha	Firma		
Dibujado	Miguel A.	10-05-06			
Comprob.					
Escala	SALIDA VARIADOR MINI 220 V			Plano Nº	
				11	
				DELTA-MINI	

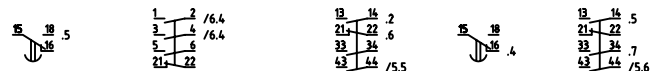
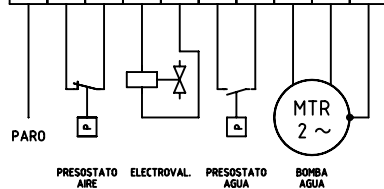
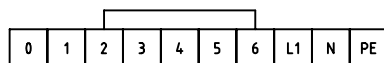


Cantidad	Material		Dimensiones	
	Nombre	Fecha	Firma	
Dibujado	Miguel A.	10-05-06		
Comprob.				
Escala	ESQUEMA FUERZA MINI 220V			Plano Nº
				12
				DELTA-MINI



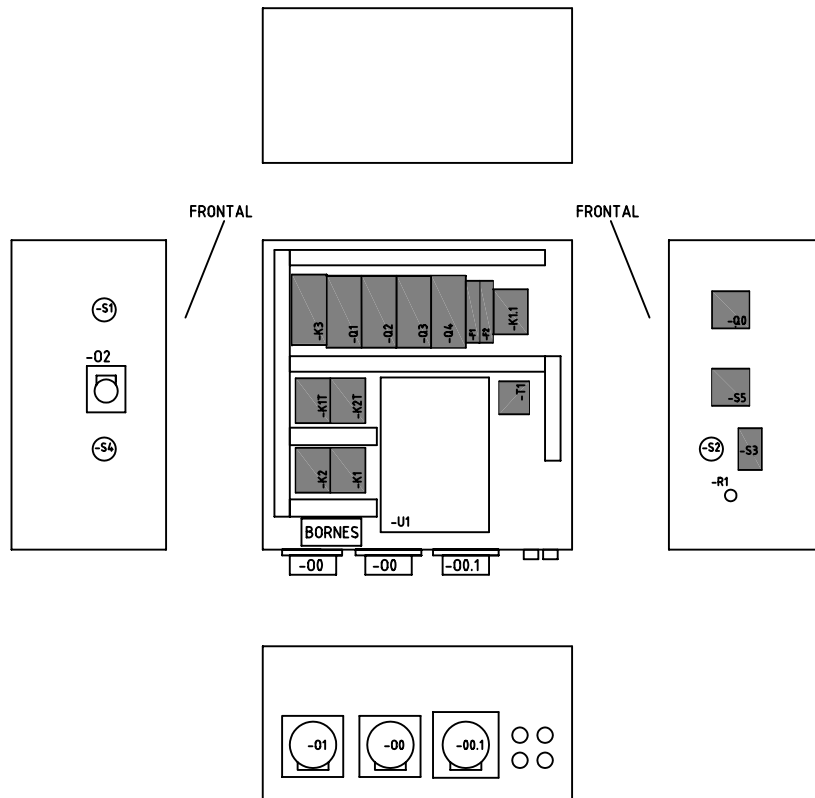


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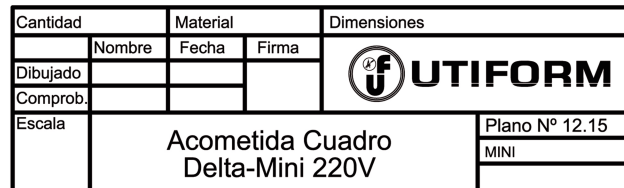


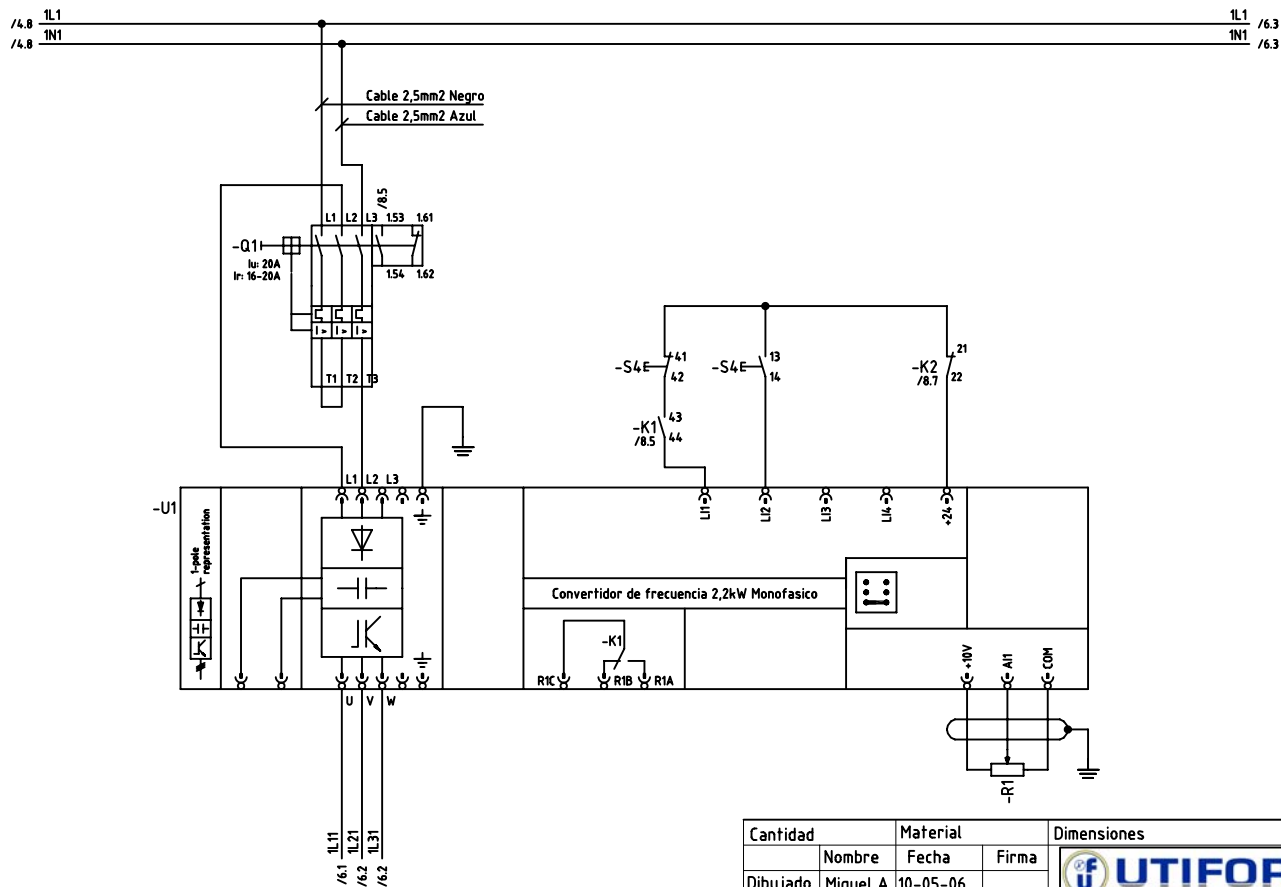
Cantidad	Material		Dimensiones	
	Nombre	Fecha	Firma	
Dibujado	Miguel A.	10-05-06		
Comprob.				
Escala	ESQUEMA MANIOBRA MINI 220 V			Plano N°
				13
				DELTA-MIN



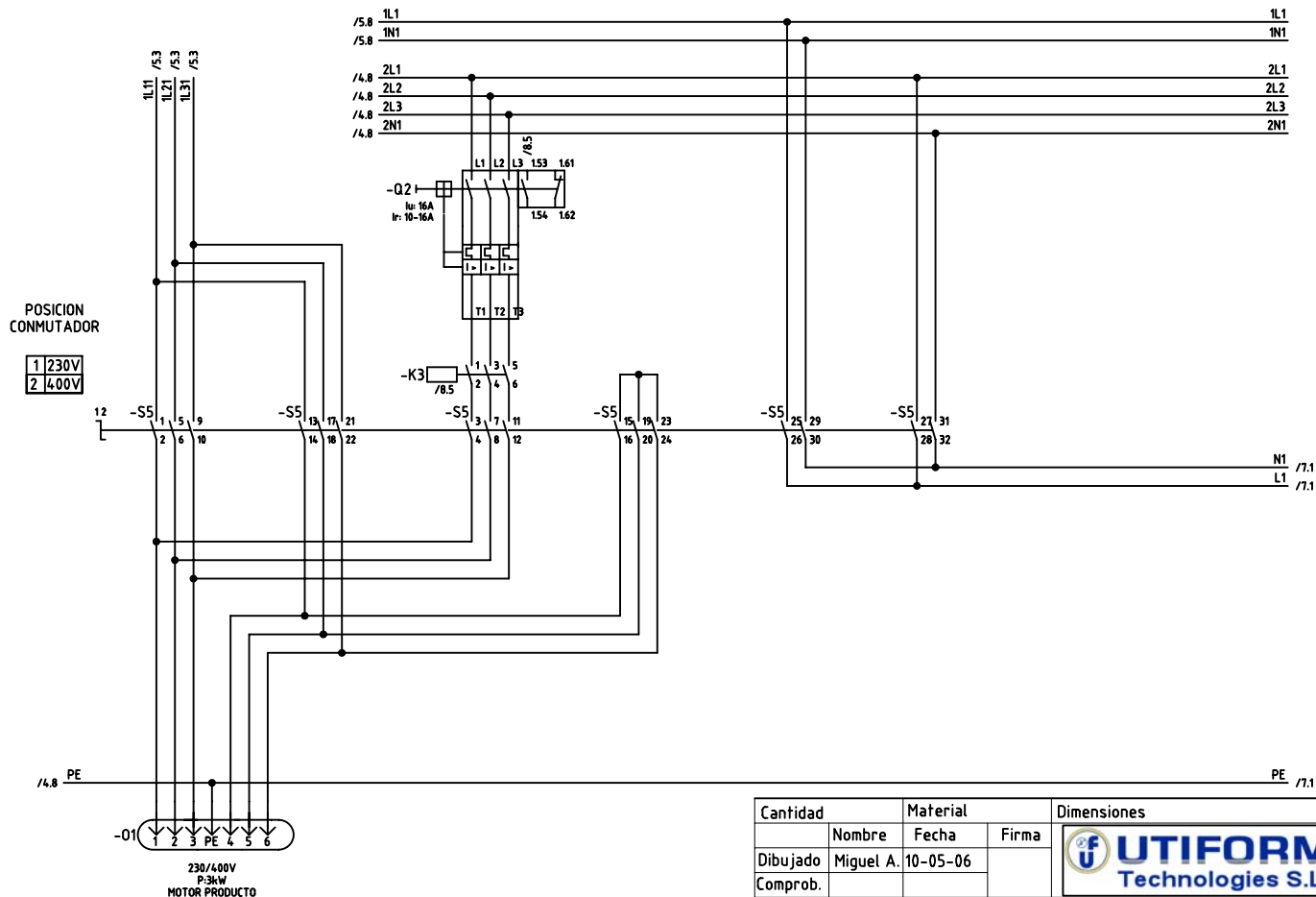


Cantidad		Material		Dimensiones	
	Nombre	Fecha	Firma		
Dibujado	Miguel A,	10-05-06			
Comprob.					
Escala	DISTRIBUCION CUADRO MINI 220-380 V			Plano Nº	
				12.14	
				DELTA-MINI	

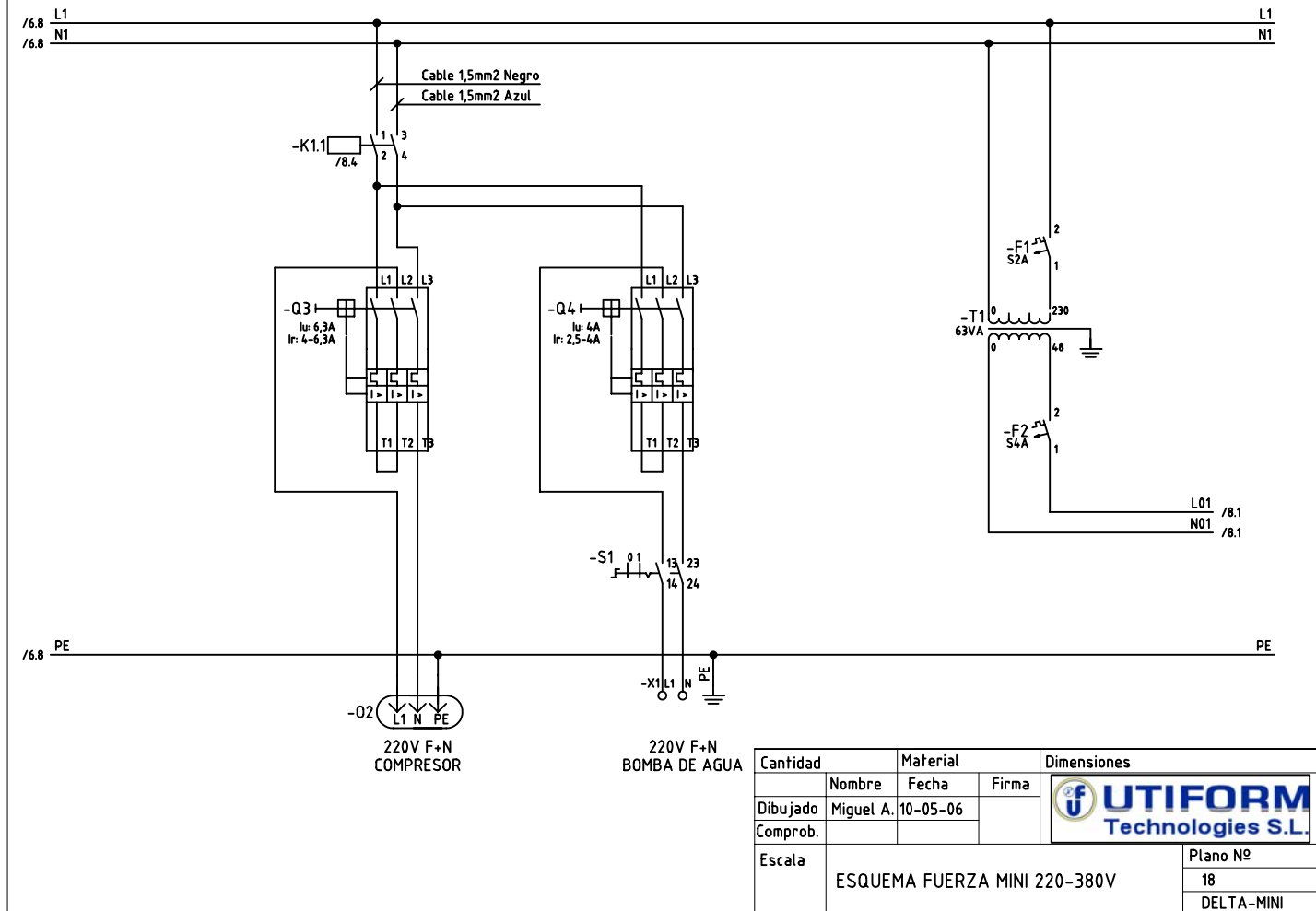




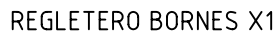
Cantidad		Material		
	Nombre	Fecha	Firma	
Dibujado	Miguel A.	10-05-06		
Comprob.				
Escala	SALIDA VARIADOR MINI 220-380 V			Plano Nº
				16
				DELTA-MINI



Cantidad		Material		Dimensiones	
	Nombre	Fecha	Firma	 UTIFORM Technologies S.L.	
Dibujado	Miguel A.	10-05-06			
Comprob.					
Escala	SALIDA PRODUCTO MINI 220-380V				Plano Nº
					17
					DELTA-MINI



Cantidad		Material		Dimensiones	
Dibujado	Nombre	Fecha	Firma		
Comprob.	Miguel A.	10-05-06			
Escala	ESQUEMA FUERZA MINI 220-380V				Plano Nº
					18
					DELTA-MINI





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